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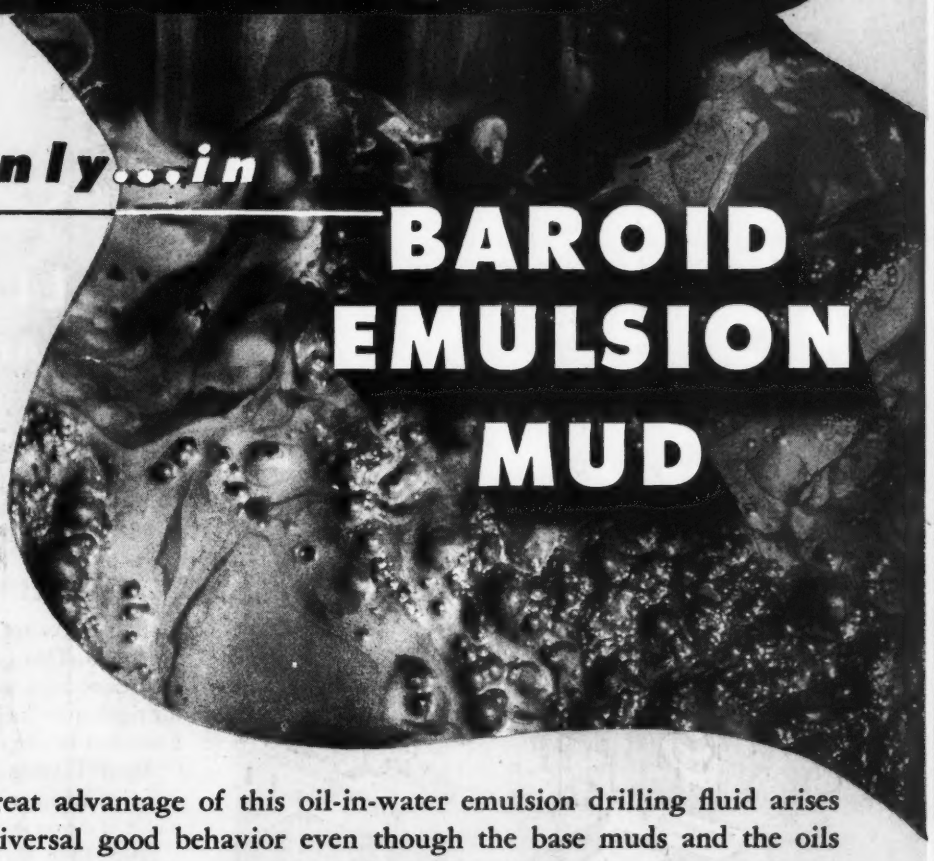

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November 30th, 1951
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Washington Highlights

The RFC in the last year has purchased approximately $67,500,000 worth of alcohol from Mexico, France, Germany and India. It is used in the manufacture of synthetic rubber, the all-around general purpose type synthetic on the country's motor cars today.

National Production Authority has postponed from November to December 1 the effective day of an order allocating imported lead. The postponement was brought about because enough information was not available on supplies. The allocation of domestic lead started September 1 and it will continue in force. NPA has indicated that all users of this lead will soon be confronted with reduced quotas because demand is growing and far above present supply.

President Truman and Prime Minister Churchill will clasp hands in Washington next January. This was made public by White House Press Secretary Joseph Short.

Census figures estimated total civilian employment at 61,836,000 in October, approximately the same as in the preceding month, and a record peak for that 30-day period of the year.

No decision has been made as yet by the Federal Government on its plan to begin management of tidelands oil leases without awaiting authorization by Congress. It has been pointed out that although the Supreme Court granted the Federal Government paramount rights in submerged lands and power to manage them, Congress must provide the proper legislation to place such authority in effect. Meanwhile, Interior Department attorneys are poring through law books for legal approval under which it might commence expansive development of land in tidal waters. The House last summer passed legislation which would return control of the tidelands to the states. However, it was not acted upon by the Senate. The tidelands controversy was the subject of an address of Texas Governor Allan Shivers at the American Petroleum Institute meeting in Chicago. He was quoted as saying "The tidelands belong to the states, the National Administration is trying to steal them, and I'm against it." According to word received here, Shivers, speaking as both Governor of Texas and chairman of the Interstate Oil Compact Commission, declared: "The incredible aggressive and cynical attitude of Washington bureaucracy in the tidelands controversy has reached a new high, or low, within the last few days. They promised to invoke the provisions of a Federal Surplus Property Act to take over the control and administration of the tidelands —this is in lieu of Congressional authorization that they have been unable to obtain. In polite language this would be called expropriation without Congressional sanction. In my language it would be called theft without license."

Nelson A. Rockefeller has resigned as chairman of the International Development Advisory Board. The board was established two years ago to conduct a world economic survey as part of the groundwork for the Point Four programs of aid to under-developed countries. It submitted a report early this year.

The U. S. Court of Claims has awarded Washington lawyer Ernest L. Wilkinson almost $2,800,000. Believed to be the third largest attorneys' fee in American history, it represented eight and three-fourths per cent of $31,938,473.43 judgment which the Ute Indians of Utah and Colorado won against the Federal Government in suits on tribal lands in the Western states. Wilkinson is now president of Brigham University, Provo, Utah. His Washington law firm called attention to the fact that the huge fee covered 20 years of work for the Indians and said that 69 other attorneys who were associated with Wilkinson on the case will share in the money.

Information received in Washington from Los Angeles told of the return of the USS Cacapon oil tanker to Los Angeles Harbor after an absence of 10 months in Korea and Far Eastern waters. During her tour of duty in the Far East the Cacapon delivered more than 1,000,000 barrels of oil to 337 Navy ships. She also carried 47,000 barrels of aviation gasoline to shore installations in the Far East.

Frequent Causes of Corrosion in Gas Engines and Compressors

By A. K. HEGEMAN
Clark Bros. Co., Inc.

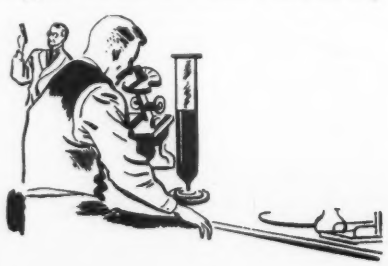
When the writer first entered the compressor business in California in the 1920's corrosion was a word which was seldom heard in connection with the operation of compressors and gas engines. Probably 95% of the compressors and engines in use at that time were being used in low pressure gasoline absorption plants or in booster plants designed to deliver dry gas from the oil fields to the public utility systems in Southern California. At that time no communities north of Fresno and Coalinga enjoyed the use of natural gas and few if any compressor stations were designed to deliver the gas at pressures in excess of 250 PSI. Most of the gas originated in the fields in the Midway-Sunset area, Ventura County and the Los Angeles Basin. Almost without exception it was free of corrosive elements and compounds and the pressures involved were so low that the minute quantities of corrosive compounds present had little or no effect upon the compressors and engines.

With the opening up of deeper sands in the San Joaquin Valley and of new discoveries in the Venice area of the Los Angeles Basin and in the Santa Maria area the presence of corrosive compounds in natural gas began to make itself felt and to offer the first problems in connection with corrosion which came to the writer's attention here in California. It was not, however, until the introduction of catalytic cracking into the refineries of the state that the compression of highly corrosive gases became a very serious problem both to the operators and to the compressor builders.

HYDROGEN SULPHIDE

Of all the corrosive compounds which occur in petroleum gases, the commonest and probably the most troublesome are hydrogen sulphide and carbon dioxide. Of these hydrogen sulphide is the one which results in the most serious damage to equipment unless its presence is quickly recognized and proper steps are taken to combat its damaging action. In the compressor cylinder it corrodes all copper and copper bearing alloy parts and even steel parts which are not protected from corrosion by a coating of oil.

Its corrosive qualities appear to be enhanced by the presence of carbon dioxide, water or oxygen. The greatest expense to the operator is caused by the rapid deterioration of compressor valves unless the valves are either made of stainless steel or are properly protected from the corrosive gas by a coating of oil. Unfortunately some of the stainless steels such as 18-8 are inclined to warp and do not readily offer themselves for compressor valve operations. The corrosive qualities of hydrogen sulphide appear to increase with increased pressure and at the very high pressures now prevalent in recycling operations amounts which are practically undetectable in the laboratory will corrode compressor cylinders. So far as the writer's knowledge is concerned this fact was first revealed when large recycling plants were first placed in operation southwest of Bakersfield. Shortly after the first of these plants was started the operators began to send badly corroded copper valve seat and valve cover gaskets to our warehouse. These gaskets were badly eaten away around the edges and of course were pitch black. Having seen similar gaskets removed from compressors in some of the refineries the writer at once stated that hydrogen sulphide was present and that a gasket material other than copper should be used. Laboratory tests did not reveal the presence of any hydrogen sulphide, in spite of which aluminum and soft iron gaskets were substituted for the copper and the loss of gaskets through corrosion immediately ceased. Later on it was possible to collect some oily material which looked for all the world like a mixture of carbon and dirt and oil from some of the compressor cylinders. This material when burned gave off a very strong stench of sulphur, which stench for once and all proved that a very small amount of sulphur which could not be detected in the laboratory was actually present in the gas and became very active when the gas was subjected to a pressure of 3000 psi and a temperature of 300° F.



Because cylinder walls, pistons, piston rings, piston rods, rod packings and discharge valves are usually well coated with lubricating oil, sulphide corrosion of these parts is very seldom encountered in compressor cylinders. However, if the gas being compressed is very high in sulphide content it is advisable to use more lubricating oil than is generally considered good practice. The main difficulty in the compressor cylinders is with gaskets and intake valves. The gasket problem is easily solved by using soft iron or aluminum instead of copper or its alloys.

Protection of the intake valves is easily accomplished by injection of lubricating oil or gas oil into the gas stream just before it reaches the compressor cylinders. This oil coats the intake valves and protects them from the effects of the corrosive gas. When flushing oil is used for this purpose it is probably advisable to use a heavier lubricating oil for the compressor cylinder than would ordinarily be the case.

While hydrogen sulphide presents some problems in compressor cylinders these are as nothing compared to the problem which it presents when existent in the fuel for the gas engines. Most engine builders frankly state that they cannot guarantee their engines to operate

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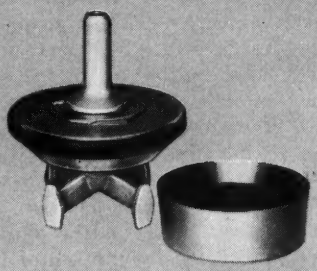

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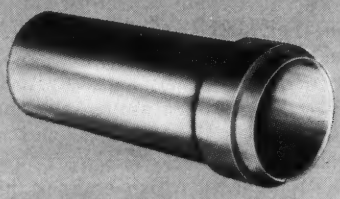

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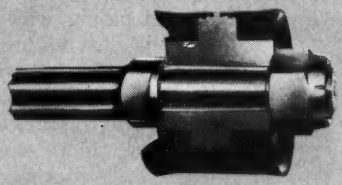

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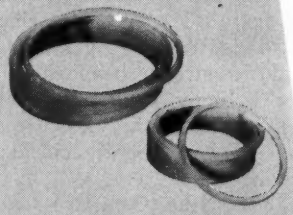

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satisfactorily and without rapid deterioration if there are more than 20 grains per 100 cubic feet of hydrogen sulphide present in the fuel. In the case of diesel engines the permissible amount of sulphur, which is really the dangerous part of the hydrogen sulphide, is expressed in terms of allowable percentage by weight in the fuel oil, but this figure rather closely corresponds to the 20 grain limitation stated above. Please understand that whether one is talking of diesel engines, natural gas engines, LPG engines, or gasoline engines, excessive sulphur is exceedingly harmful when existent in the fuel.

Just what happens when sulphurous fuel is burned? When any mixture of Hydro Carbons is used as a fuel in an internal combustion engine the hydrogen combines with the oxygen from the air and forms water. Local gas forms about 13 gallons per MCF burned. The greater part of this water is driven off into the exhaust where considerable of it condenses in the exhaust manifold and piping and muffler. Unless the jacket water is hot enough to keep the cooler parts of the power cylinders heated above the dew point of water, some of this water also condenses on the cylinder walls. The sulphur in the fuel is oxidized to sulphur dioxide. That portion of the dioxide which passes off in the exhaust combines with any condensed water in the exhaust manifold, piping and muffler and becomes sulphurous acid. More of the sulphur dioxide combines with the water which has condensed on the cylinder walls and likewise becomes an acid. Sulphurous acid is highly corrosive and immediately attacks the metal with which it is in contact. Some of the sulphur dioxide and some of the sulphurous acid are swept into the crankcase where it acts on the lubricating oil to form an acid sludge.

The oil blackens up, thickens and together with any portion of free acid which is left attacks all of the metallic parts in the crankcase. Corrosion is very rapid and it is only a short time before the operator realizes that his engine is in very bad shape. When an engine which has been consuming sulphurous fuel is shut down and allowed to cool off, water condenses over the entire area of the cylinder walls and the walls of the exhaust manifold and piping and corrosion proceeds at a rapid rate until the acid has completely combined with the metals. It is difficult for the writer to understand why so many technically trained men among the chemists, chemical engineers and mechanical engineers fail to recognize the danger to which engines under their jurisdiction are exposed when sulphurous fuels are burned. From time to time the writer has been advised by operators or potential operators of gas engines that certain people interested in the sale of engines state that their particular product will not be damaged if sulphurous fuel is used. The writer's advice to any buyer of such equipment is that he get a positive statement in black and white signed by an officer of the corporation supplying the equipment.

Some of the advocates of extremely hot water engine cooling point out that if water at around the boiling point is used to cool engines, deposition of water of combustion upon the cylinder walls will not occur. This is undoubtedly true, but condensation of water in the exhaust piping and in the crankcase and consequent formation of sulphurous acid will still occur. Therefore the use of hot water for cooling purposes is by no means a complete cure for the trouble. The only 100 percent answer to the problem is to burn fuel which does not contain sulphur in any form, remembering that sulphur is the arch-enemy of any internal combustion engine.

CARBON DIOXIDE

This gas is also a cause of frequent difficulties in engines and compressors although fortunately it is not nearly as active and destructive as is hydrogen sulphide. Dry carbon dioxide can be compressed to very high pressures such as 3000 or 4000 psi without any difficulty in the compressor cylinders or attached piping, but the presence of water and/or oxygen does cause corrosive action which can become serious if not recognized and prevented by suitable means. The carbonic acid which is formed by the combination of water and carbon dioxide attacks carbon steel and therefore on the compressor end of a machine is particularly dangerous in connection with corrosion of the intake piping and of the intake valves. The latter can be nicely protected by the use of flushing oil as discussed under the heading "Hydrogen Sulphide." Corrosion of intake piping can be successfully counteracted by using stainless steel piping or by coating the interior of the carbon steel piping with paraffinic paint. It is also highly probable that injection of lubricating oil or flushing oil into the stream of gas approaching the compressor will protect the intake piping from corrosion. Corrosion of discharge piping does not appear to be reported as frequently as that of intake piping and it is highly probable that this is because of a protective coating of oil, the source of the oil naturally being the compressor cylinder. However, it is strongly advisable to aftercool the discharge gas immediately down stream from the compressor cylinder to a point below the dew point of the moisture and to trap off the carbonic acid at the aftercooler.

Because of the protective coating of oil on the power cylinders and pistons, carbon dioxide does not appear to have any recognizable effects upon those parts. However, it has been determined by laboratory work that much of the increase in the size of power cylinders which is commonly called "Cylinder Wear" is the result of corrosion by organic acids as opposed to the usual thought that it is caused by abrasion. Naturally, when making such a statement the writer is assuming that hydrogen sulphide and dirt do not exist in the fuel and that the cylinder is properly lubricated. Carbonic acid plays its part in this corrosion along with more complex organic acids which are not generally recognized as being present. It is understood that this corrosion is more apparent when the cylinders are operated at comparatively low temperatures as a result of light

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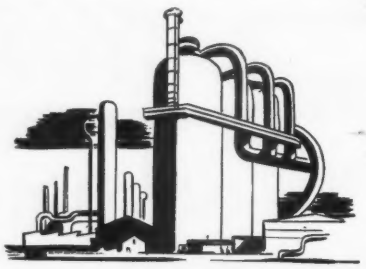
loading and of cold jacket water. Its corrosive effects are therefore more serious on marine installations of internal combustion engines than in the usually heavily loaded compressor station in the petroleum industry.

However, even with heavily loaded engines there is one place where carbon dioxide, or rather carbonic acid formed by the carbon dioxide in the exhaust gas, does have very serious corrosive effects. This is in the exhaust piping of the engine. Even if no water is injected into the exhaust gas to cool the piping, water of combustion is always present. As the exhaust gases cool off this water is condensed, combines with the carbon dioxide and even when no hydrogen sulphide is present badly corrodes the exhaust piping and mufflers. Many of those who operated compressor plants in the days when it was customary to inject water into the exhaust piping will remember the severe corrosion of that piping and of the mufflers which was very apparent upon inspection. Even the lubricating oil which was blown into the exhaust system from the power cylinders did not appear to eliminate this corrosion.

CORROSION, OTHER THAN OXIDATION CAUSED BY ATMOSPHERIC CONDITIONS

Prior to the time when the spread of residential areas in California made the presence of noxious fumes in the atmosphere undesirable, many refineries discharged waste gases from their stacks. This procedure has since been discontinued in the public interest. Among these gases were Sulphur Dioxide and Carbon Dioxide which combined with atmospheric moisture to form acids. These acids attacked anything of a metallic nature with which they came in contact and were therefore a source of considerable maintenance expense to the operators. Anecdotes describing two occurrences in California may be of interest and value.

After several months operation in a catalytic cracking plant certain engine driven compressors were reported to the suppliers thereof to appear to be incapable of further operation at full load. Investigation on the part of the compressor company's representatives revealed that in the combustion air intake to the power cylinders there existed a vacuum of 30" of water instead of 5" of water which had been logged when the plant was placed in operation. Inspection of the air cleaners revealed that the oil compartment was filled with sticky acid sludge and that the filtering element consisting of crimped carbon steel



wire was nothing but a solid mass of iron sulphite and rust. It was very apparent that the acid in the air which was drawn in at the air cleaner had combined with the oil and formed an acid sludge which of itself would seriously have interfered with proper operation of the air cleaner. In addition to this the acid had attacked the steel and corroded it so badly as to seriously interfere with the supply of combustion air to the engines. Operating results since the time that the air cleaners were replaced by another type not so subject to corrosion has been satisfactory enough to establish the fact that the amount of sulphur in the atmosphere is not sufficient to corrode the engines themselves. Since that time the manufacturer whose cleaners were attacked by this acid has made changes in design and in material which makes it possible for him to supply noncorrosive cleaners for locations where the atmosphere is saturated with sulphur dioxide.

The second case deals with the operation of some centrifugal air compressors in another refinery. The air at this location was also noticeably saturated with sulphur dioxide. The centrifugal compressor consisted of a first stage and a second stage case with an intercooler between them. It was compressing atmospheric air in two stages from 14.7 psia to 124.7 psia and the intermediate pressure was in the neighborhood of 45 psia. The operators were intercooling the air to approximately 70° F. This was well below the dewpoint of the moisture in the air and, naturally, with relative humidities running as high as 95%, large quantities of water were condensed between stages.

A few months after the compressor was placed in operation, a very noticeable decrease in capacity began to make itself felt. Inspection of the equipment revealed that the entire interior of the second stage case was coated with a crust of salt, in places as great as 5/16" thick, which naturally seriously interfered with performance. Chemical analysis of the salt deposit revealed that it contained sulphites of all the metals which, when alloyed together, form Admiralty metal. Inspection of the intercooler then revealed that the Admiralty metal tubes had been seriously corroded by the acid which had formed as a combination of the sulphur dioxide and the water. The writer never heard any report about the aftercooler, but it is reasonable to assume that it was corroded in like manner.

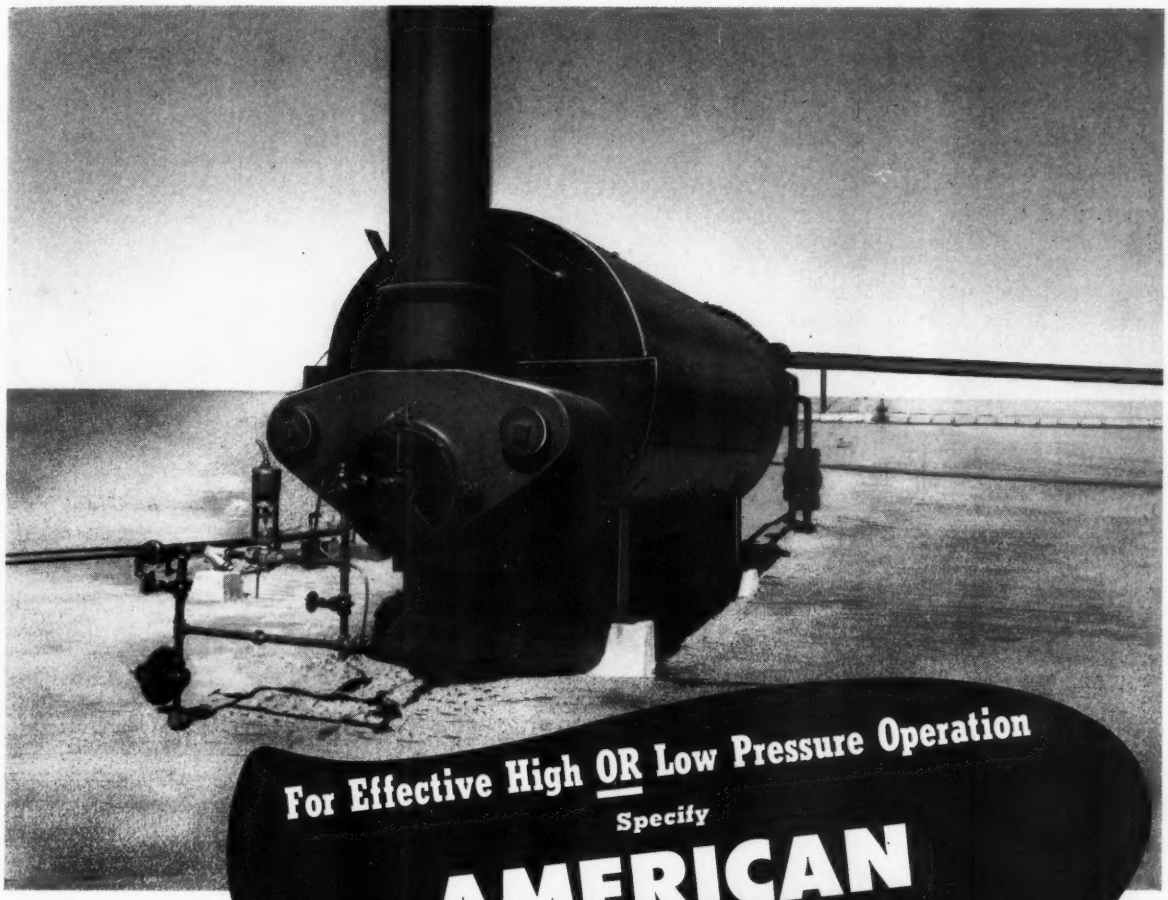
There were two very apparent solutions in this difficulty, as follows:

1. Use stainless steel tubes in the coolers instead of alloys of copper. This solution had its drawbacks because of lack of a supply of stainless steel tubes of the required size.
2. Decrease the degree of intercooling, avoid cooling the interstage air below the dewpoint of moisture contained therein, and thereby keep the acid in a vapor phase.

This second preventative method was adopted, since which time no further reports of difficulty have been received. However, it is very apparent that the second stage case now requires more power to operate than was formerly the case.

HYDROGEN CORROSION

The discovery of this type of corrosion is something rather new and is the result of an investigation made as to the cause of the blistering of pressure vessels in catalytic cracking plants. A paper on this subject entitled, "Hydrogen Attack on Steel in Refinery Equipment," was presented to the May 1951 meeting of the division of refining of the American Petroleum Institute at Tulsa, Oklahoma, by a group of research technicians of the Shell Oil and Shell



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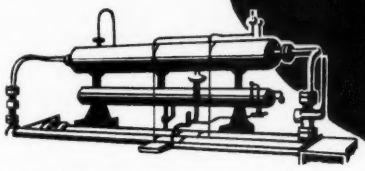

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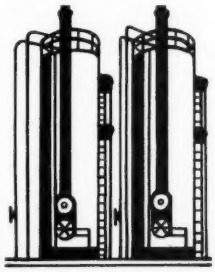

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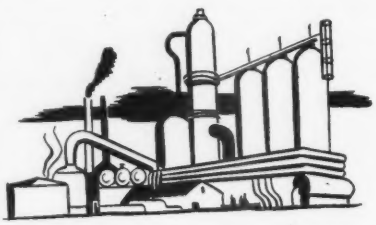
Development Companies. It was reported that the blistering of the pressure vessels was caused by penetration of the steel by what is referred to in this paper as "Atomic Hydrogen." To quote from this paper, "Molecular hydrogen diffuses through steel very slowly, if at all. Atomic hydrogen diffuses through steel very readily." Whether hydrogen of this type plays any part in corrosion in absorption plants or in gas transportation compressor plants and pipe lines is problematical, but it is certainly very definite that it occurs frequently in catalytic cracking plants. The excessively high cost of maintenance of compressor cylinders in many of the catalytic cracking plants has been the source of much irritation to the operators and much worry on the part of the compressor builders. While many other factors than atomic hydrogen have assisted in the difficulties which have been suffered, it is now definite that atomic hydrogen has played a very important part. This is particularly true of the compressor valves in both the intake and discharge sides of the compressor cylinders. The atomic hydrogen penetrates the steel discs and springs and causes them to lose their ductility and to become very brittle. They then break and often broken pieces of the discs and springs get under other valves and cause them likewise to break. In some cases temperature conditions are such that the operators of the catalytic cracking plants have been able to substitute fabric discs for steel and to somewhat improve their operating record. However, they are still using steel springs behind these discs and these springs are just as subject to embrittlement by atomic hydrogen as are the discs. Peculiarly enough when a piece of steel which has been attacked by this atomic hydrogen and which has been rendered brittle is removed from the gas and exposed to ambient air for a few hours, the hydrogen appears to leave the steel and its ductility to be restored. For the benefit of those who are not acquainted with catalytic cracking operations, let it be brought out that this atomic hydrogen is only one of the causes of difficulties in compressor cylinders in those installations.

Unfortunately this type of operation is cursed with many foreign substances such as iron sulphide, polymers, hydrogen sulphide, water, carbon dioxide and gums other than polymers which all add to the woes of the plant personnel. It is not extraordinary to find compressor valves buried inches deep in such foreign material with absolutely no chance to operate successfully. Furthermore, some of the gums harden as the compressor cylinders cool off and the gums deposited on the piston walls make it absolutely impossible to move the piston by hand after disconnecting it from the crosshead.



MERCURIAL CORROSION

As our Golden State can boast the only active or semi-active volcano in the continental United States, so it likewise can probably boast of the only occurrence on record of this type of corrosion. The locale is the Cymric field. A comparatively short time after an absorption plant was placed in operation in that field it was discovered that the Admiralty tubes in the heat exchangers were disintegrating. Investigation revealed that the corrosion was being caused by mercury. It also revealed that other equipment in the plant which was made of copper alloys and was in contact with the gas was also being corroded. At first it was thought that some of the meter men had been a little careless with their mercury and had dumped some of it into the gas pipes. Metallic mercury was later discovered in the gas traps at the wells and finally some of it was bailed out of the bottom of the wells in a certain section of the field. Geologially speaking this Cymric oil field is not far distant from commercial sources of supply of mercury which exist in the Coast Range. This area has quite a few hot springs and the well known San Andreas fault no doubt contains channels through which hot water constantly circulates. Mercury, being volatile at comparatively low temperatures, has undoubtedly been transported to the sands and shales in the Cymric structure by some of these percolating streams of hot water. Obviously, the only answer to elimination of corrosion under such conditions is to use non-copper bearing alloys and it is the writer's understanding that this has been done.

JACKET WATER CORROSION

This is a type of corrosion which might more properly be discussed by a chemist than by a mechanical engineer. Several discussions of this type of corrosion with various individuals have very definitely brought out that there is great diversity of opinion as to its causes and as to the proper procedure to eliminate it. The pH at which the water should be maintained to minimize corrosion appears, however, to be in the near vicinity of seven. Some operators appear to prefer to keep the water on the acid side while others believe that slight alkalinity is desirable. Water circulated in open systems must be treated by entirely different methods than is applied to water circulated through closed systems. However, there is practically no diversity of opinion on one point and that is that entrained oxygen in the water is the cause of destructive corrosion of engine and compressor jackets. The attack of this oxygen upon the iron is very rapid. It results in a tubercular type of corrosion which in turn results in a deposition of nodules of iron oxide all over the jacket walls. The cure for this rapid and destructive type of corrosion has been very definitely established and is as follows:

1. Use a closed jacket water system wherein control of water quality can be closely maintained.
2. Add two pounds of sodium or potassium dichromate to each 1000 gallons of water in the system.
3. Titrate a sample of the jacket water weekly to maintain the proper concentration of dichromate.

The dichromate acts as an inhibitor against the tubercular type of oxidation of the iron. It does not entirely eliminate oxidation but it does slow down the activity of the

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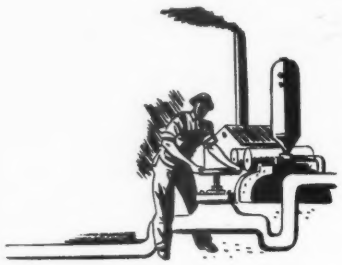
oxygen. The resultant type of corrosion is much less rapid than when dichromate is not used and results in a smooth and non-tubercular deposit of iron oxide on the jacket walls.

SEA WATER CORROSION

When an organization builds an engine or compressor plant closely adjacent to the ocean, there is naturally some temptation to make use of the abundant supply of sea water to cool engines and compressors. The engineer who makes such a recommendation is headed for serious trouble. When sea water is heated to over 100°, it becomes very corrosive and attacks the water jackets with astounding rapidity and persistence. Discussion with several chemists reveals that the actual chemistry of this corrosion is somewhat obscure, although entrained oxygen in the sea water appears to be the corroding element. The results most certainly are not obscure. If large quantities of sea water at sea temperature are circulated through the jackets with a temperature rise of but two to three degrees, corrosion will undoubtedly be negligible. However, the use of water at such low temperature will result in rapid power cylinder wear due to the deposition of water of combustion upon the cylinder walls. It likewise will undoubtedly lead to considerable crank case fouling with water. This is the practice generally used in small off shore fishing boats and it is a well known fact that wear of the cylinders on that type of craft proceeds at a rather rapid rate compared to the acceptable rate of wear of equipment such as is operated by members of this group. It is strongly recommended that no thought be given to this type of cooling. No inhibitor is known.

ELECTROLYSIS

Electrolytic corrosion has been noticeable particularly in the Coastal fields of Santa Barbara County. It is highly probable that some of the mysterious corrosion which has been noticed in other localities may at least partially have been the result of electrolysis. The following is quoted from a report on this type of corrosion in a plant at Elwood: "Generally speaking, corrosion is electrolytic in its nature. Sometimes the electrolysis is set up by a reaction between oxygen and certain salts in solution in the water on the one hand and the metallic surfaces on the other. This chemical reaction produces electrolysis of itself. In other words, the chemical ionic reaction setting up a cathode at one point and an anode at another, generates and produces an electrical current which dissociates the hydrogen ion thereby causing corrosion."



"On the other hand, there are occasions when stray currents exist in a field either from deposits in the ground or from electrical generating machinery or some unknown cause which produces a definite path of high frequency current irrespective of the salts or elements in the water. Such current then accomplishes corrosion by the same means, namely the dissociation of the hydrogen ion. In either event, the object is, if possible, to eliminate the stray current where such current exists, or to produce a water that will not easily cause electrolysis if that is the fundamental cause of the corrosion. These are theories which seldom or never can completely be accomplished and consequently the general endeavor is to produce a condition of passivity in the water."

With what appears to be a reasonable measure of success corrosion by electrolysis is being combated by the use of potassium dichromate in the jacket water. Work with some of the phosphates in solution in jacket water is also being conducted with promising results. The theory back of the use of these chemicals is that the salts of the metals plate out and form a monomolecular film on the surface of the iron, thus preventing the dissociated hydrogen ion from contacting the iron. Belief in this theory is strengthened by the fact that where such salts have been used, the passivity which occurs continues for an appreciable period even when the water is changed and a plain water without any added chemicals is used.

In conclusion, I wish to express my appreciation to those of your group such as D. E. McFadden, C. D. Gard, J. H. Watson, and R. S. Ridgway upon all of whom the writer called for assistance in refreshing his memory on certain phases of the subjects, particularly carbon dioxide and jacket water corrosion, which have been discussed herein. Special thanks are offered to Mr A. R. Moberg for his assistance in preparing the section devoted to electrolytic corrosion.

* * *

Delivered at Annual Fall Meeting of California Natural Gasoline Association.

Moody Gulch Test Digging

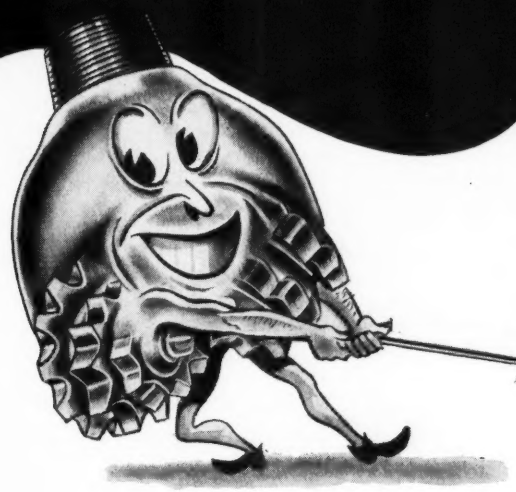
At old Moody Gulch in Santa Clara County, Los Nietos Company's Holy City No. 1 exploratory project on Sec. 9-9s-1w is making progress with the drill at 4475 ft. At Pescadero in San Mateo County, Texaco's Steele No. 1 wildcat on Sec. 36-7s-5w is coring and drilling at 6200 ft.

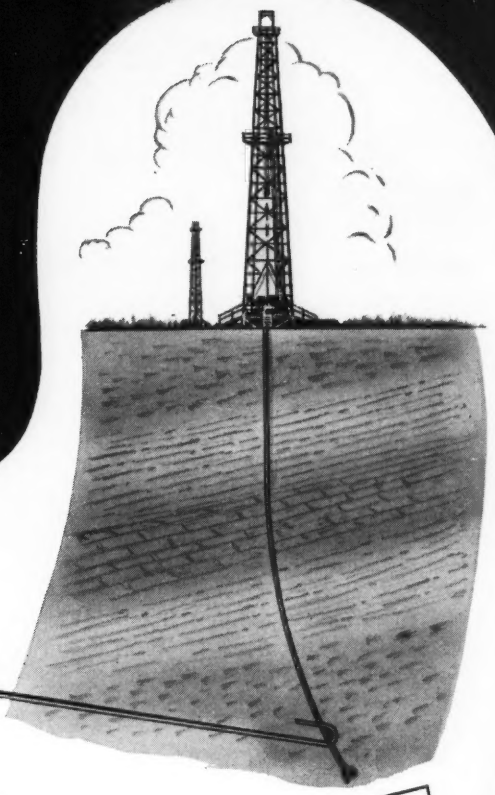
Reyes Peak Test Pokes

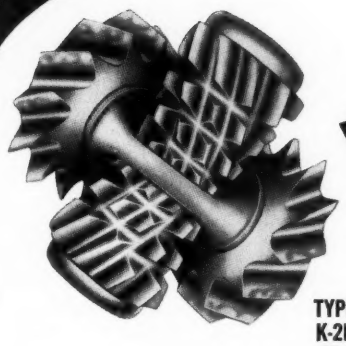
In one of the most rugged areas of Ventura County if not in the entire state, Standard of California continues to slug away with its ambitious wildcat atop Reyes Peak. The project, Hattie Russell No. 1, is on Sec. 11-6n-23w. Currently it is drilling at 8040 ft. At Montalvo, Standard is ready to start the drill in its Pidduck No. 1 test on Sec. 18-2n-22w.

Thomas P. Pike Drilling Company of Los Angeles during the fiscal year of 1950-51 drilled on contract 522,449 feet of hole, or about 100 miles. President Thomas P. Pike spoke on the personalized aspects of his company's profit sharing plan at the Fourth Annual Conference of the Council of Profit Sharing Industries in Detroit.

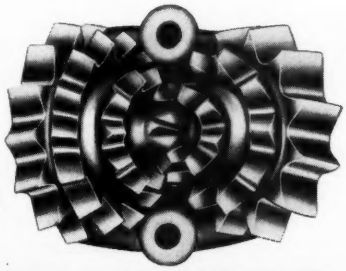
When the hole has started wandering ... these are the bits that will bring it back straight!







TYPE K-2P 45°



TYPE Y two-cone

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These H. C. Smith Rock Bits really do straighten out crooked holes. Because of the special 45-degree tooth design, the cross-section bit runs dead center—so you can make fast hole without worrying about angle.

Note: The crews in West Texas tell us that these straight-running 45-degree bits are world beaters for fast digging in sandy lime. Run smooth, too—no bouncing or bumping. (Other 45-degree bits available for harder formations.)

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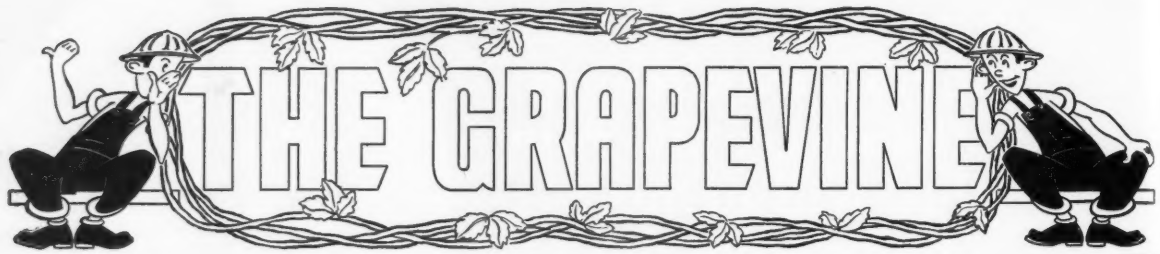

We are told that Bill Travers, assistant manager of exploitation, Richfield Oil Corporation, is coming along nicely in the Northwestern University Hospital at Evanston, Illinois, where he is recuperating from a sudden illness that developed during the course of the API Convention in Chicago. He merely requires a little bit of rest and relaxation, according to the attending physician and then he'll be right back on his feet again as good as ever. Bill is a fine appearing chap with a clear look in his eye and the glow of health in his skin. It is difficult to believe that there could be anything very far wrong with his anatomy or his metabolism and we are stringing with the rest of his friends for a quick and full recovery from whatever it is that has for the moment laid him low.

We and a raft of other people were deeply shocked to learn of the sudden passing of that fine chap, Willard D. Smith, secretary-treasurer of Wilshire Oil Company and personal consultant to all its employees for the past 34 years, more or less. W. D., as he was known to practically everybody in the western oil industry, began work for Wilshire on April 1, 1917, and for a time was superintendent of the compressor plant and refinery at Fellows. Later he became manager of operations, which position he held until the company's cracking plant at Norwalk was completed in 1937. In that year he was moved to the head office in the Bendix Building and has been a kind of personnel adviser and adjuster ever since. He was elected secretary-treasurer towards the end of 1948.

W. D. always felt a sort of proprietory interest in the Wilshire Company and he loved its people as much as they loved him. He was a kindly soul who had a profound interest in the folks who surrounded him and he constantly foraged about the building helping this one and that one with his problems in a quiet, unassuming, but very effective way. He was intensely proud of his long attachment to the Company and the Company was outspokenly fond of him. In all respects, indeed, he was as genuine as they come and a lot of men will freely testify that their little circumscribed worlds were distinctly sweetened by the goodness of W. D. In his lifetime he built up a treasury of friendships that must have been a great satisfaction to him and should now be a great solace to his family and friends.

That pioneer Californian, noted Wildcat, conductor of geological field tours de luxe, and old Stanford grad, Homer J. Steiny, was recently named president of the Pacific Section of the American Association of Petroleum Geologists, and should do an elegant job of leading the local mud smellers along the way of further progress. Homer, who has been geologizing for Tide Water Associated Oil Company for some 33 years, was born in Stockton, California, and so were both his parents. There he waited in panting impatience until he was old enough to attend Stanford University. In good time he emerged from the famed Palo Alto institute with a degree in geology and mining, and a profound conviction that no other college could either compare or compete with his alma mater. There has been no noticeable weakening of this conviction in the past 35 years, in fact, if anything, it waxes stronger with time and today there are those who will tell you that without the Steiny influence Stanford would be about as impotent as an olive with no martini.

Paul Terry, the Capital Company executive, is reputed to be still perambulating about the effete east apparently quite unaware that the API Convention is over. He was recently seen tiptoeing furtively down the Great White Way in New York, dodging in and out the several hostelries that dot the noted pathway and it is conjectured that he is looking for a domino game. At least it is known that he has been much worried that his lack of domino practice might cause him considerable financial embarrassment when he gets back to Los Angeles. And speaking of domino players, just returned from a swing around the Texas circuit is Tom Sherman, the Huntington State Company executive who is one of the sharpest tile tossers out this way. We have squandered our life savings and hocked the family jewels in continuous but futile efforts to wrest just one lone game from this genius of the five multiples. As a matter of fact, we haven't even come close and we have come to the conclusion that it would be better to abandon the whole idea and take up some simple project like taking a couple of falls from the Baron Leone.

Up on Fairway Avenue in Montrose, excitement is nothing less than intense since it became known that the Wilbur Bettises, the M. O. Johnston Bettises, that is, are awaiting the arrival of another little formation tester. It is rumored that Walter Winchell was literally insane with jealousy when this reporter scooped him shamefully and announced the coming event at a cute gathering of Nomads in the Jonathan Club recently. Bill Bettis, the prospective father, is enjoying pretty good health despite the tremendous strain. He had a slight lapse, a few days ago, however, and was forced to consult his physician when he began to experience a strangely expanded feeling in the head and chest. The Doc looked him over pretty thoroughly and finally diagnosed the trouble as an acute attack of vanity.

Had a brief talk the other day with Moose Krause, the Security Engineering Company trainee, who has had a very interesting life for a man of his years. Moose graduated with a B.A. in phys. ed. from Purdue in 1938 and took his M.A. at the same institution three years later. After graduation, he played a season of baseball with the New York Giants after which he fell with a resounding thud for this land of perpetual sunshine. He arrived in Los Angeles in 1943, later played with

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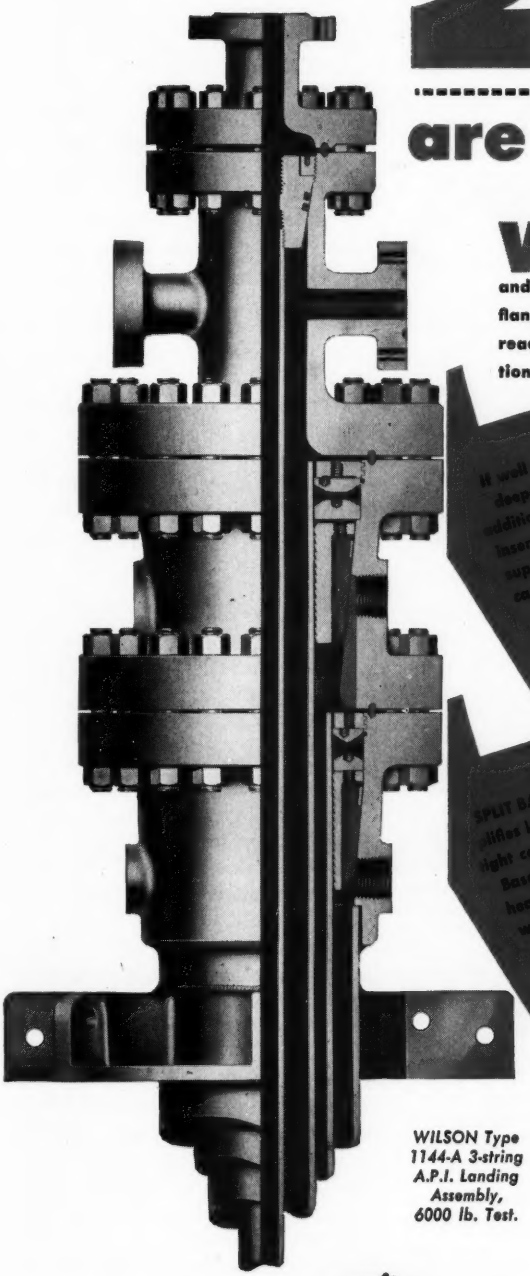
If well needs deepening, additional head inserts here to support extra casing string.
SPLIT BASE simplifies landing in tight cellar areas. Base and first head welds to water string.

WILSON Type 1144-A 3-string A.P.I. Landing Assembly, 6000 lb. Test.

WILSON Landing Assemblies provide maximum convenience, safety and economy when multiple casing strings are required. Since flanges of components mate readily, any desirable hookup can be readily assembled, solving special problems as well as conventional needs. If it is desired to deepen a well employing only a single casing head, a two-string suspension can be increased to three simply by inserting an additional casing head. Each string is supported within its own casing bowl on a separate slip mechanism and is independently packed-off.

WILSON 3-string Assemblies are made in two types for moderate and high pressures. Type 1144-A (illustrated) is a typical assembly rated at 3000 lb. working pressure. For higher pressure requirements, designs of 5000 lb. ratings are available. All WILSON components and factory assemblies are hydro-statically tested at double working pressure ratings, furnishing a 2 to 1 safety factor.

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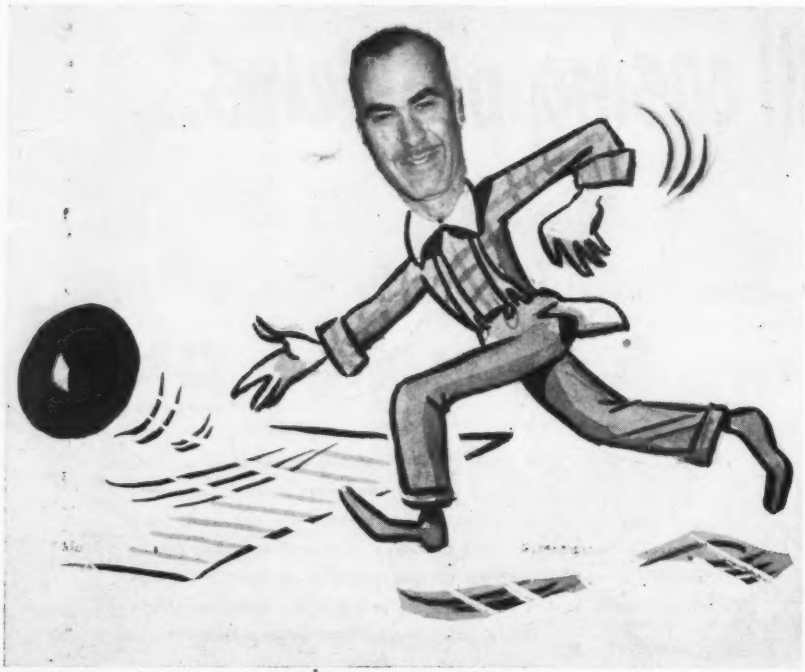

NEAR OLYMPICS CHAMP

Lloyd Hill, manager of field products for National Supply Company, is a tall, nice looking chap with a dark and roving eye who, although he appears somewhat reticent is no introvert. He has had an extremely interesting life and his momentary seclusion is merely the result of business necessity. Lloyd was born in Coalinga and his boyhood marbles were steel ones snitched from sundry headache posts in the surrounding oil fields. For further amusement he flew tiny parachutes from the tops of the oil derricks. Altogether, indeed, he became inoculated with the petroleum virus at a very tender age and he has remained an incurable victim ever since. In his school days he had a natural flair for athletics and particularly excelled in track, basketball, baseball, and tennis. He came within a scant ace of qualifying for the 1924 Olympic Games in high jump and for a number of years played tournament tennis around Southern California with some of the best in the game.

He left Coalinga in 1918 and started work for Standard Oil Company in Montebello but late in the same year jumped to Union Tool Company at Torrance and has remained a firm adherent of that company and its successors for the past 33 years.

Through all the evolutionary changes that have brought National Supply Company to its present imposing stature, Lloyd has found his early Coalinga associations invaluable. He numbers among his personal friends many noted petroleum pioneers who adventured in Coalinga in the swaddling days of the industry and he has never himself quite lost the fraternal attachment that is so characteristic of the petrolic people.

He ran the full gamut of supervisory sales positions to attain his present post and has over the years become so thoroughly informed on the products and practices of the company that he is now literally glued to the phone which explains his absence from association meetings and other functions he was once able to attend and enjoy. Today he finds his diversion in bowling and golf at both of which he continues to demonstrate that old innate athletic aptitude to the frequent discomfiture of his opponents. He is at the moment, with the aid of his son, building a mountain cabin at Lake Arrowhead, and if he follows the advice of his best friends, the one modern convenience that his place will lack is a telephone.

Hollywood in the Coast League but quit when he was beaned by a pitched ball. Thereafter he coached for L. A. Junior College and then went up to Stanford to help Marchie Schwartz for a while. He fell in love with Stanford and is now just about as demonstrative in his affection as is Homer Steiny. He has adopted Stanford, indeed, as the College for which he is going to root henceforth, excepting possibly when the Palo Alto boys are jousting with Purdue.

Jim MacDonald, who has a remarkable regard for the virtue of chain belts and is an author of high caliber, has recently been made a director of the Wilshire Country Club and is also chairman of the House Committee, a mighty important post. All this is, of course, to be expected because Jim is a pretty famous individual in the golf world. He has not only shot a hole-in-one but has written an article telling exactly how to do it. This piece has occasioned more comment than the Message to Garcia and no ambitious divot lofter can afford to be without it. In it Jim tells how he used to think a hole in one was an accident, but after he made one himself he suddenly realized that the whole thing was the result of careful planning. It sounds sort of convincing but there is one disconcerting circumstance — although he since followed his own instruction with painstaking care he hasn't been able to get another ace up to the moment.

Also elected a director of the Wilshire Club was Paul Huggins, the Western Gulf head man, to whom we are indebted for the discovery of a delectable dish, to wit, smoked rainbow trout. Paul usually has a little spread in his suite after the Nineteener tournaments and among the dainties he offers to his guests is this smoked rainbow trout, which is really delish. Try it sometime. And on the subject of directors, the Nineteeners have named to their board, Dale Russell, Harold Davis, Bill Conroy, Wally Rushing, "Chappie" Chapman, Len Price, George Trembley, Jascha Heifitz Tuttle, and Jim MacDonald, about as impressive an assembly as has ever been selected to guide the Bigshot and his aides over the turbulent waters of a golfing year. It might be mentioned, incidentally, that Len Price was recently appointed California representative for the Grip-Tite Manufacturing Company so that if it hurts a little when he shakes hands with you from now on, you will know the reason.

We hear tell that Bob Cook, the husky Coalingan, has been made a vice president of the Great Lakes Carbon Company, which is good news to a lot of people out thisaway. Bob is a big, good natured, amiable sort of chap who could probably have made a success in anything he cared to tackle. He is liberally endowed with both physical and mental strength and the combination is very effective. He has had long, interesting and exceedingly worthwhile experience in the oil business and it is now beginning to pay off. He is undoubtedly one of the best known equipment men in the west and his friends are to be found in the highest executive echelons as well as out on the derrick floors. We are pleased no end to learn of Bob's elevation and we wish him lots more of the same .

Any minute from this writing, Tom Martin of R. J. Eiche & Associates, will be back in California again after a prolonged visit in Colombia and

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We can thank petroleum—its endless research, its varied products—for many advancements and seeming miracles in modern living. This high development of petroleum and the many wonders it performs are further examples of free men at work in a land of free competition.

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Venezuela during which he really did himself and his company proud, according to all the reports. A few days ago we heard that he was in Mexico City on the last lap of his journey home and will probably be seen in his old haunts before this appears in print. Tom has been in the export business for a good many years now and although he is a well known individual here it is probable that he is even better known in the Latin-American countries. He has long been a royal entertainer of visiting delegates from foreign fields and we rather imagine that he is paid off in kind when he traipses south of the border. Anyway, it will be good to see him again around the local circuit so *bien venido amigo,* say we, using up all of our Spanish in one short phrase.

One of our local operatives tells us that J. R. "Bill" Pemberton, the consultant, who has already had more adventures than Robinson Crusoe is now making last minute preparations for an extended tour of Africa. We can't vouch for this but it is certainly strongly suspected in some quarters that this safari is being financed by domino winnings. Bill, as is well known, is something of a naturalist. In fact, come to think of it, there are few things you could mention that Bill isn't something of. He is already widely known, for example, as an authority on the love life of the condor, and being one of the best raconteurs in the west, it may be assumed that he will come back stuffed with more animal lore than you'd find in the St. Louis zoo. We are also willing to bet four shillings and sixpence that the colored boys who constitute the Pemberton pack train will have considerably extended their vocabulary by the time Bill releases them to the next contingent of adventurers. In any case, when this petrolic Frank Buck returns and makes a public narration of his observations and experiences, we hope to be sitting right in the front row for there is no more colorful narrator in these here parts and the Pembertonian version of "Darkest Africa" is bound to be a pip.

We have a letter from Harris Cox of Western Geophysical International up in Calgary in which he indicates that he is being kept pretty well occupied with crews ranging all over the Dominion, from Manitoba to the bush country north of Peace River—a territory with which, incidentally, we are very well acquainted. Harris thinks the Canadian people are tops and even if it does get a bit cold in the winter he is enjoying himself no end in the land of the Chinook. Canada is a great country for sportsmen. It has an abundance of ducks, geese, bear, elk, moose, mountain lions and mountain goats, and for those who prefer their sports sitting down there is nothing in the world to beat ice hockey or box lacrosse. In spite of his avowed love for our northern neighbors and the land in which they live, we detect in the Cox epistle a hankering for at least a short sojourn in the deep, warm, California south with his old friends. He hopes to make it in March for the national AAPG convention.

And now by way of last minute roundup, Henry Pullman and Dewey Mong are vacationing together up in Canada and will no doubt return with the usual grist of tall tales. W. S. Payne, Jr., has just opened offices at 609 South Grand Avenue for consulting practice in petroleum engineering and geology. Bill Wilson, from the house of the Yellow Tiger, is down in Mexico City. Babe Doyle, the Hydril ambassador, and his better seven-eighths are still in the east. Jerry Engstrand, Grant Oil Tool executive and Nomad prexy, is also on a business trip in the east as we write. Vern Zacher, Tide Water's Ventura mud expert, made a talk recently to the senior petroleum engineering students at University of California on human relations as it effects field engineers and rig men. We hear the presentation went over big. Which about does it for this time. Cheerio!

At a luncheon at the Los Angeles University Club given by Carl Totten of Shell Oil Company, R. M. Pyles reported on last year's activities related with the R. M. Pyles Boys' and Girls' Camp, an oil industry sponsored philanthropic move. Success of the camp is paving the way of successful life for youngsters, particularly the underprivileged, is an outstanding tribute to the understanding and sympathy of the California oil industry.

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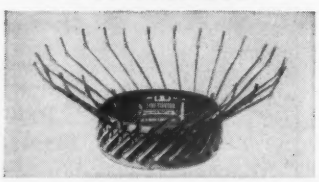

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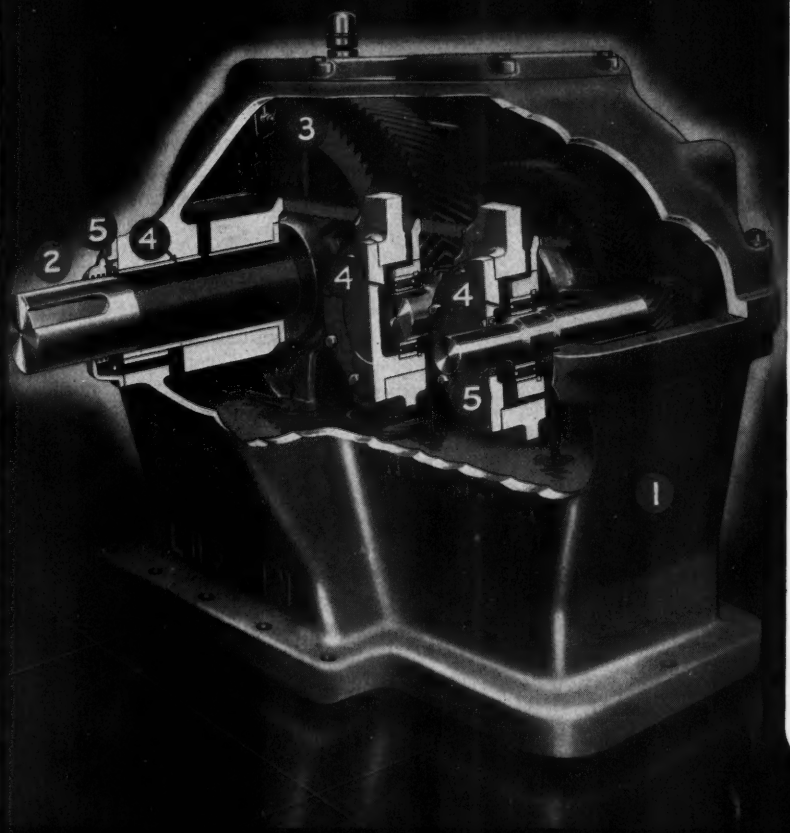
The heart of an oil field pumping unit is the gear reducer. Pumping service is generally considered to be one of the toughest applications for gears. Lufkin's total output of gear reducers in this class is now over thirty thousand units. Here are the reasons Lufkin is still first in oil field reducers:



1. The Lufkin reducer housings are of rugged construction and especially built for oil well service.

2. All shafts are forged from alloy steel which is heat treated and precision ground.

3. Gears which are precision cut on our Sykes Herringbone machines are used exclusively in Lufkin Units. These gears operate in an oil bath with gear wipers to flood the bearings.

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5. The pinion shaft bearings are equipped with patented oil seals, to prevent oil leaks; while the main crankshaft is equipped with collar oil slingers and annular grooved drain covers.

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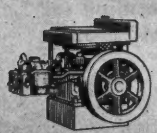

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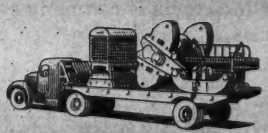
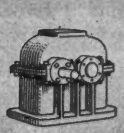


LUFKIN OIL FIELD AND INDUSTRIAL TRUCK TRAILERS



INDUSTRIAL SPEED REDUCERS AND INCREASERS

DIVISION LUFKIN FOUNDRY & MACHINE COMPANY INDUSTRIAL, MILL AND AUTOMOTIVE SUPPLIES

Field Development

San Benito Strike Due

All signs agreed that The Texas Company is about to open new production of some importance with its O'Connell No. 1 on Sec. 14-12s-4e, San Benito County. The wildcat, located six miles northwest of Hollister and midway between that town and the old Sargent field, is coring on down following okay on water shut off on the 7-in. casing set at 7210 ft. To depth of 7210 ft. the project was credited with interesting shows particularly as pertained to gas. The well was drilled to original bottom of 7418 ft. An insurmountable fishing job resulted in the company plugging back to 6825 ft. for a fresh start. Tools used in the first job apparently were left in hole. In the Bitterwater area of San Benito County, Texaco's Tully No. 1 wildcat venture on Sec. 21-18s-10e is drilling below 5400 ft. The company's highly interesting Jacobs NCT One No. 1 on Sec. 18-17s-14e in the Calexico area of Imperial County in Imperial Valley is engaged in a fishing job brought about by a twist off at 6734 ft. Showings to present depth evidently have been conspicuous by their absence. However, in the event this current Imperial Valley explorer should not turn up the expected oil or gas, the company has several other plays in that part of California mapped out for drilling. Acreage held by Texaco in the Valley is extensive and before it can either be proved or discarded many key wells must be put down for conclusive tests of what may lie in the way of petroleum beneath the earth's crust.

Tejon Ranch Outpost Starts

D. K. Partnership No. 2 has started work on an outpost drilling job on Sec. 29-11n-18w near wells producing from depth between 1700 and 1900 feet on property of Reserve Oil & Gas Company on the Tejon Ranch in Kern County. The drill site is about three miles south of Tejon Exploration Company's recently abandoned No. 55-8 on Sec. 8-11n-18w. Reserve had a 20 per cent interest in the venture, which was about one-quarter mile from northeast boundary of Reserve's ground. Reserve's land embraces some 25,000 acres in the area. The duster went to a bottom of 1429 ft. in gray Santa Margarita sand. Location was roughly two miles east of Tejon Hills Company's No. 37 which is producing 40 barrels of 28 gravity crude oil a day from the extremely shallow depth of only 366 ft.

McVan Try On Pump

Having deepened Fitzhugh-USL No. 10 extension test on Sec. 14-27s-27e from 1230 ft. to a bottom of 1930 ft., F. H. Gillespie has returned the well to the pump. The project first went on the pump early in November and showed initially about 10 barrels of oil-spotted water a day. After pulling the pump and conducting remedial work, the well was placed back on the artificial lifter. The 6⅝-in. casing is set on bottom. Top of the Olcese is placed at 1892 ft. and base at 1928 ft.

Bowerbank Test Listed

F. & W. Oil Company is preparing to launch a gas test on Sec. 9-29s-24e at the north hem of the Bowerbank gas field close to Buttonwillow. The try probably will not be satisfied until looking everything over to at least 5000 ft. Jefferson H. Fawcett of Monrovia is company executive.

Sharktooth Kitty Bailed

DeWitt Langford, operator, bailed to 2100 ft. his Bishop No. 1 wildcat on Sec. 24-28s-28e in the Sharktooth area, Kern County. These operations during a one hour period showed a 35-ft. rise of half oil and half water. The operator's plans as this is set down were to allow the well to stand for a week or so and then again bail. Langford's next drilling job will be a Vedder test up structure from the present effort. Bishop No. 1 bumped into Vedder oil sand at 2329 ft. and the Pyramid Hills formation at 2240 ft. Total bottom is 2600 ft. with plug at 2267 ft. Allen Hunter did the engineering.

Kern River Test Working

Seaboard Oil Company's Seaboard No. 27-22, a wildcat well on Sec. 22-28s-28e in the Kern River area, is about to disturb the equanimity of the surface of the ground with a big bite with the spudding bit.

San Emidio Try Begins

Richfield Oil Corp. has cellar for its San Emidio A No. 34-27 on Sec. 27-11s-22e approximately one-half mile east of the abandoned San Emidio A No. 84-28. The first try quit slightly below 7200 ft., after interrogating, some oil sand penetrated between 5300 and 5400 ft. Reaction to the conventional question was below commercial standards. Ground under investigation lies between fields at Maricopa and Wheeler Ridge.

Devils Den Well Staked

The Devils Den field of Kern County is in line for a new drilling job. There L. R. DeKalb has staked location for LeBaron No. 6 on Sec. 24-25s-18e.

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Los Angeles Basin

Del Valle Test Works

Standard of California is about to take the first bite of ground with its Blair No. 7 on Sec. 15-4n-17w in the Del Valle area. The project is a south offset to Union Oil's Liebhart No. 1, which was recompleted in October, 1943 for an initial output of 160 barrels a day from a redrilled depth of 7670 ft. The Liebhart job was originally under the banner of Russ Havenstrite. Southern California Pete's N.L. & F. No. 2 on Sec. 20-4n-17w is digging at 6253 ft.

Whitney Canyon Wildcat Hunting

Phillips No. 1, a Continental Oil Company wildcat hunting for new oil on Sec. 6-3n-15w at Whitney Canyon, is drilling at 7010 ft. In the Ridge Basin area, Conoco's Elbe-USL No. 1 test on Sec. 20-7n-17w has reached 4600 ft. and is going on down for that much sought after and elusive stuff often referred to as Black Gold. Alexander No. 1 on Sec. 23-5n-17w at Castaic at last reports was making hole at 3570 ft. Bixby No. 62 on Sec. 2-5s-12w at Seal Beach is poking deeper at 10,654 ft.

Pico Canyon Test Location

Old Pico Canyon is the scene of another test undertaken by Los Nietos Company on Sec. 12-3n-17w. The venture, called Odeen No. 1, is down 2643 ft. Hartman No. 1 near the San Fernando Reservoir on Sec. 1-2n-16w is down 4687 ft. In the Orchardale area, Western Gulf's Unit No. A-1 on Sec. 10-3s-11w is making hole at 2100 ft.

Dry Canyon Wildcat Digs

Drilling at last reports was at a depth of 2500 ft. in H. P. Oates' Oates-Merritt Annex No. 1 wildcat on Sec. 35-5n-16w at Dry Canyon near Newhall. Electric log was run somewhat higher. The well is on a lease from General Petroleum and the Oates group is understood to control some 1200 acres in the area. Signal Oil & Gas, Humble and Continental are among other holders with land in the area.

Santa Fe Springs Test Starts Work

R. E. Bering has started work on his Annabel-Shanahan Comm. No. 1 test on Sec. 30-2s-11w, one-half mile north of wells producing in the Santa Fe Springs field. In the La Habra Heights area, Bering's York No. 2 on Sec. 29-2s-10w has gone on the pump after flowing by heads from 3346 ft. An accurate production gauge was not available at this writing.

Newhall-Potrero Wildcat Drilling

Union Oil Company's Union-Ferguson No. 1 wildcat on Sec. 31-4n-16w in the Newhall-Potrero area continues to drill steadily on down at a depth of 2346 ft. Union's Needham No. 1 on Sec. 13-3n-16w in the Tunnel area has reached a drilled and cored depth of 3371 ft. and is now undergoing equipment repairs. Needham No. 2 on Sec. 12-3n-16w has conductor pipe in.

Chino Hills Tests Dusters

Two wildcat wells in San Bernardino County have been written off as production failures. Southern California Petroleum's Marcell-Downs No. 1 on Sec. 31-2s-8w at Chino Hills quit at 1810 ft. Chino Exploration's Caspary No. 1 on Sec. 5-3s-8w went off the board at a redrilled depth of 1235 ft. Total bottom was 1815 ft. L. H. Cameron's No. M-8 on Sec. 32-2s-8w is a location. At Colton, John W. Brashears is engaged in cleanout operations with his Dana No. 1 test on Sec. 26-1s-5w. The project is down 2503 ft.

Corona Tests Digging Deeper

Eugen Kronisch is coring at 1150 ft. with Christopher No. 1 on Sec. 3-5s-6w in the Corona area, Riverside County. Max H. Hammerling's No. 1 wildcat on Sec. 21-4s-6w is digging at 350 ft. Near Prado Dam, Cherrydale Oil's No. 1 explorer on Sec. 8-3s-7w continues to drill ahead below 2400 ft. On the north shore of the now dry Lake Elsinore, Andrew J. St. Pierre, Jr., apparently has called a temporary halt to drilling at 830 ft. in his St. Pierre No. 1 on Sec. 26-5s-5w.

E. H. A. Andrews' Carty No. 1 in the Ojai field with Santa Paula Drilling & Development Co. contractor. Left to right: Joe Ellsworth, driller; Frank Krogh, cathead; Joe Beaman, derrick; H. Quarles, racker.

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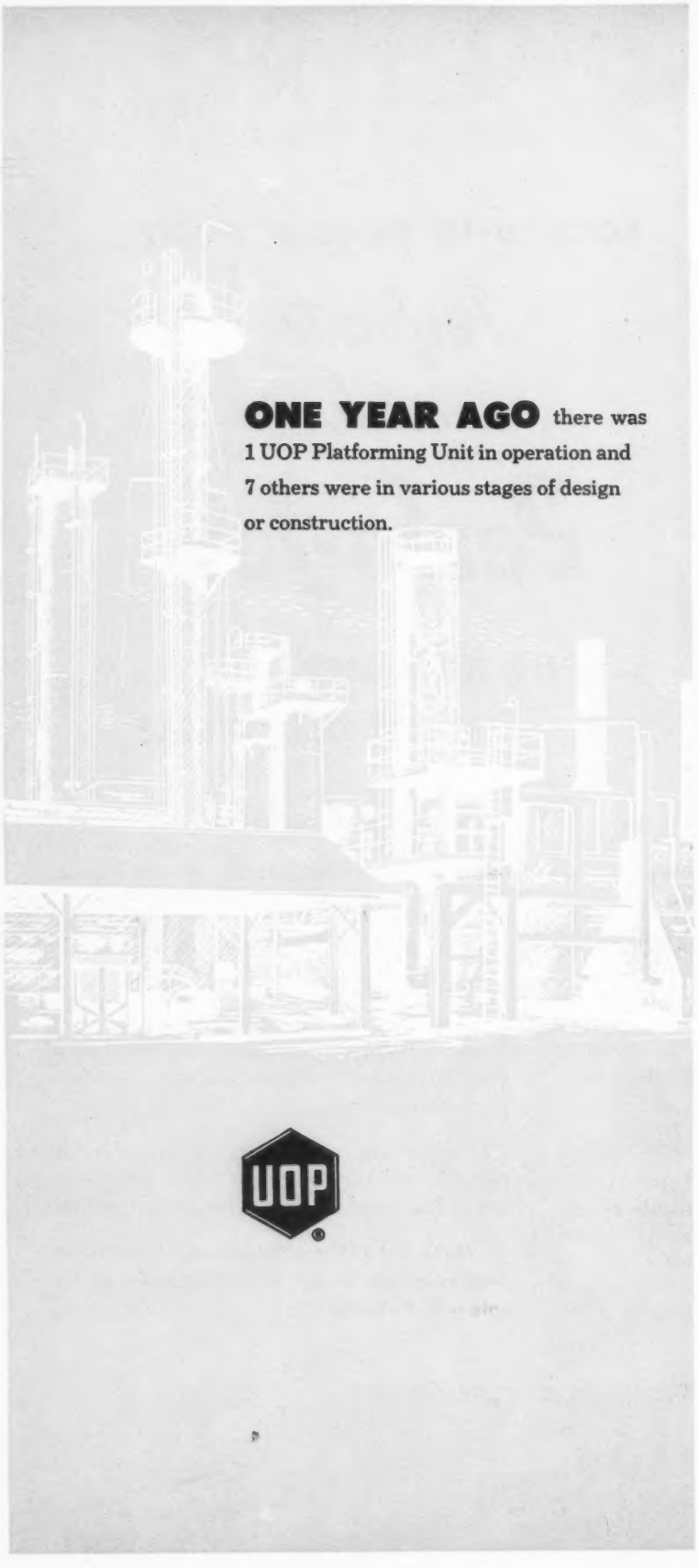

ONE YEAR AGO there was
1 UOP Platforming Unit in operation and
7 others were in various stages of design
or construction.
UOP

New Johnson Platformer Now On Stream More Than 100 Days

By William J. Leenhouts
Refinery Manager
Johnson Oil Refining Company

The fifth Universal Oil Products Company Platforming unit was placed on stream at our Cleveland, Oklahoma, refinery on June 22. At 4:30 that afternoon, the first Platformate entered the product separation vessel making possible an economic leaded 95 octane product for the first time in the history of the refinery.

Wm. J. Leenhouts

The new unit is unique in that it was designed in such a way that a new fractionating tower and cooling system already on the premises could be used as the feed section of the Platformer. A control unit already located in the area also was utilized.

From the standpoint of the over-all refinery picture, the addition of the Platforming unit has not necessitated any major increases in our refinery personnel, with the exception of operators to take care of the Platforming unit itself.

The majority of pumps on the unit are motor-driven and the compressors are powered with gas engine drives — thus no expansion in the steam producing facilities was needed. Additional water cooling equipment has been installed to provide an increased water requirement.

The Platforming unit is designed to charge the total straight run which is separated from the crude at the crude unit. This fraction is charged to the unit from storage and processed first in a prefractionating column, which in this case, is the fractionating tower previously existing at the refinery.

The fractionating column is now used to prepare a Platformer reactor charge, taking the light fraction overhead, consisting essentially of pentanes and lighter and removing a bottoms cut to leave a reactor charge of controlled end point. The reactor charge which is taken as a sidecut from this column is pumped by means of a reciprocating pump and this stream is joined with the recycle hydrogen gas before going into the feed products exchanger. The total preheated feed is then passed through the convection section and through the No. 1 radiant coil of the Platformer heater.

Total feed is then processed through the No. 1 reactor where the temperature of the reactants decreases, depending on the nature of the feed reaction. The effluent from the No. 1 reactor is then reheated in the No. 2 coil in the heater and then passed to the No. 2 reactor where further reaction takes place.

The effluent from the No. 2 reactor is passed through the No. 3 radiant coil in the same heater and the feed is then processed in the No. 3 reactor, where the temperature drop is less than in the preceding reactors. The total effluent from

the No. 3 reactor is used as a source of heat for reboiling both the Platformer feed prefractionator and the total Platformate product.

Following the cooling of the total reactor effluent, the gas is separated from the liquid in a product separator with the bulk of the gas going to the recycle gas compressors for return to the reactor section. A portion of the net gas produced in the reactor is vented from this receiver and sent to the fuel gas system. This gas contains in the neighborhood of 85 per cent hydrogen.

Liquid from the product separator is charged to the stabilizer where in combination with the net light product from the prefractionator overhead, the total stream is stabilized to the desired product vapor pressure.

The following represents a summary of the operating conditions on the unit since the original startup. One period represents the normal operation and the second period represents the results which were obtained during the performance test run which was conducted on the unit shortly after the initial startup.

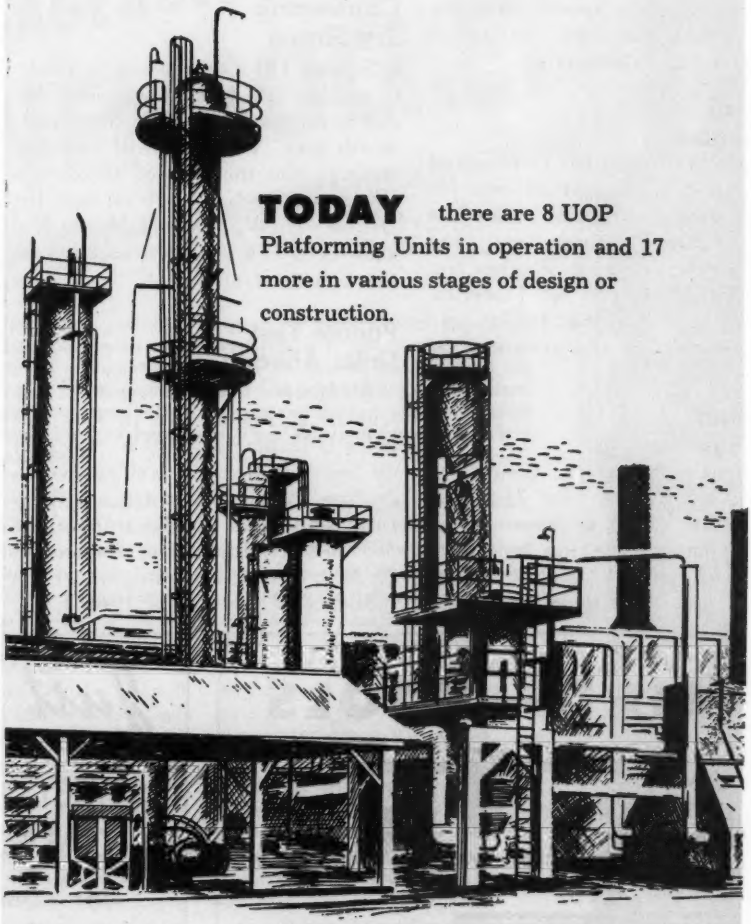
Platforming Unit Operating Results

Period	1	2
Reactor charge BPD	1980	1840
Platformate yield vol. % of charge	93	90.6
Inspection		
Platformate		
Octane Numbers F-1		
clear	80.6	84.1
+ 3 cc TEL	93.4	95.5
°API	54.7	54.0
Reid vapor pressure	7.2	7.7
Initial boiling point	99	95
10%	157	157
50%	255	258
90%	330	340
End point	397	402
Reactor Charge		
Octane Numbers F-1		
clear	45.6	45
+ 3 cc TEL	66.5	65
°API	56	55
Reid vapor pressure	1.5	
Initial boiling point	174	182
10%	218	231
50%	279	283
90%	335	342
End point	370	380

The control of the process is easily accomplished since the feed rate has been set and recycle gas compressors have been set to deliver a constant volume of recycle gas, it is only necessary to determine what octane product is desired and to set the operating conditions desired in the three reactors to obtain this product.

Instrumentation in this unit is straight forward and required very little adjustment on the part of the operator. As a further aid, a special instrument has been devised which continually records the purity of the hydrogen produced from the process.

We at Johnson feel that the installation of the UOP Platforming unit represents another milestone in the progress of our company and are looking forward to an era of even greater efficiency and production of quality petroleum products.



TODAY there are 8 UOP Platforming Units in operation and 17 more in various stages of design or construction.

WHAT BETTER PROOF

of acceptance by the refining industry! Although it has been less than two years since the process was first announced ... the 25 Platforming Units now in operation, or under design and construction, represent a total daily capacity of approximately 100,000 barrels.

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Bartholomaus Wildcat Drills

With the project in the no dope category information is therefore necessarily sketchy on Bell Petroleum Company's No. 74-6 wildcat on Sec. 6-2n-14w at Bartholomaus Canyon in Los Angeles County. However, it does appear that the hole to date has been carried to 4300 ft., or approximately.

Newhall Try Begins

Joseph W. Aidlin has commenced his Atwood No. 1 test on Sec. 10-3n-16w in the Newhall area, Los Angeles County. George Dexter has placed on the pump his Wagner No. 2 on Sec. 36-4n-16w at Placerita. The well is bottomed at 1683 ft. and representative yield is yet to be established.

Gardena Try Digs

Gardena Royalties Company's Comm. No. 4-1 on Sec. 24-3s-14w at Gardena, south of metropolitan Los Angeles, is making hole with the prospect drill below 2000 ft. The 13⅜-in. casing was cemented at 1306 ft. The derrick is near the intersection of Redondo Beach boulevard and Western avenue. Long Beach Oil Dev. Company is drilling at 4340 ft. with its No. J-50 on Sec 11-5s-13w at Wilmington. Showings to date have held promise.

Chatsworth Try Slated

Sunray Oil Corporation is ready to engage in a task of searching for and developing new oil in the Chatsworth area. The hunt will be made through the medium of the firm's Porter Estate No. 81-16 on Sec. 16-2n-16w. H. W. Shaffer's Muntz No. 1 on Sec. 9-7n-14w is a location in the Lancaster area.

Puente Test Drills Ahead

Richfield Oil's Hurley No. A-1 wildcat at Puente east of Los Angeles is drilling at 4010 ft. Located on Sec. 9-2s-10w, the well recovered drilling fluid and a trace of oil on formation trial of the interval of 3655-3783 ft. Richfield's Golden No. 83-35 at Castaic is sinking under the influence of the drill at 1940 ft.

McNally Ranch Oil Hunter Digs

On the expansive McNally Ranch not far from the Santa Fe Railroad's La Miranda station, The Texas Company is maintaining its search for new oil at a depth of 6441 ft. with its wildcat on Sec. 23-3s-11w. Gilbert Brown No. 1, another Texaco effort on Sec. 28-4s-12w at Long Beach, is rigged up and ready to take the first chunk out of the earth's crust. In the Castaic Fork area, Honor Ranch Two NCT One No. 1 on Sec. 36-5n-17w is gnawing below 3550 ft. Stanley No. 1 on Sec. 34-5n-17w at Castaic at last reports was digging at 3705 ft.

Castaic Try Deep

As this is set down, Superior Oil Company was still pushing the drill ahead below 13,300 ft. with its N.L. & F. No. 1 wildcat on Sec. 8-4n-16w in the Castaic district. George C. Terry, popular member of the oil fraternity, is drilling at 500 ft. with his Eskridge No. 1 oil seeker on Sec. 36-5n-17w.

BAIRD---TOOLS

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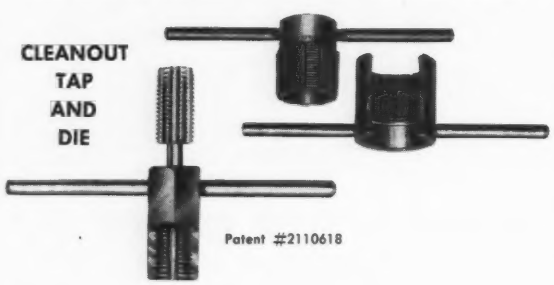

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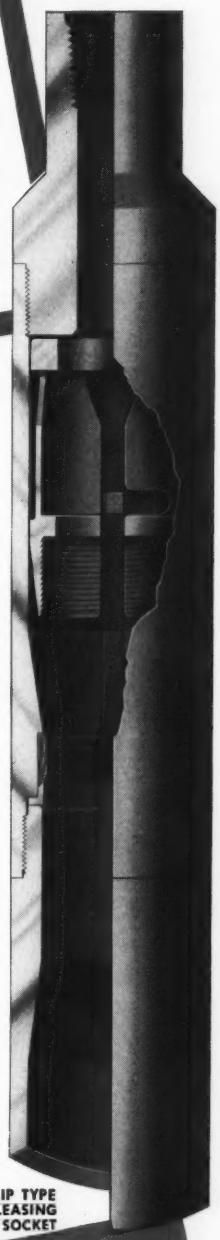
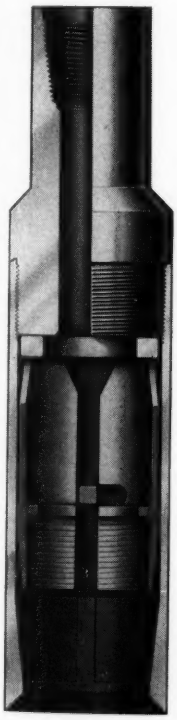


Husky over-all construction and simple operation make Crown Slip Type Bowen Releasing and Circulating Sockets the fishing tools to use wherever it is possible to engage a fish externally. They are compact units designed to engage and pack off any specific size. Through the installation of proper undersize parts, they can be adapted to engage and pack off any smaller sizes. Their presence in the string insures the operator of the ability to engage and pull on the fish, to pack off and circulate through the fish, and to release from the fish at will. Their sturdy design enables them to withstand all pulling, torsional and jarring strains.



CLOSE MOUTH CROWN SLIP TYPE BOWEN RELEASING SOCKET

Simple operation—After the Socket has been lowered over the fish, a fractional turn to the left will disengage the Bowl Pins from the Slip. Thereafter, when the Socket is elevated, the Bowl tapers will contract the Slip into secure engagement with the fish. Release is effected by bumping down and rotating a fractional turn to the right. This will engage the Bowl Pins in the Slip and, since the Slip cannot now be contracted by the tapers in the Bowl, the Socket can be easily withdrawn from the fish.

Ideal for fish with short engageable surfaces—Crown Slip Type Bowen Releasing and Circulating Sockets are particularly effective where the engageable surface of the fish is very short in length.

The standard Socket illustrated at the right will firmly engage a fish such as external upset sections of half collars—where the upper end is an enlarged short section. The Close Mouth Socket illustrated at the left will firmly engage a fish whose upper end is a stub as short as 6" in length and where conditions prevent lowering of the Socket past the stub.

As a secondary releasing mechanism, the Slip is cut with left-hand wickers and is keyed to the Bowl, so that it will unscrew from the fish when the Socket is rotated to the right.

All Slips to engage tool joints, couplings or upset sections are provided with integral stops to insure location of the fish within the wickered portion of the Slip.

Crown Slip Type Bowen Releasing and Circulating Sockets have the most simple and yet positive gripping and releasing mechanism of any outside releasing fishing tool. The gripping and releasing mechanism consists only of a Bowl and a unitized Slip. This insures easy operation and maintenance.

Double-Bowl Assemblies can be supplied for catching drill pipe or tool joints. Available with or without pack-off features in all popular sizes.

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Coastal and Northern District

Red Mountain Slated For Test

Ventura County's Red Mountain area has been singled out by Amerada Petroleum for a new test. The company has started work there with its H. & S. No. 1 wildcat on Sec. 9-3n-24w, about 2500 ft. north of CCMO's Hobson B Rincon production. Near Santa Paula Creek, Kemper Oil & Associates is making hole at an inconclusive level with No. 1 wildcat on Sec. 27-4n-21w. At Coyote Creek, Sunray Oil's Dunshee-One No. 1 on Sec. 26-4n-24w is drilling at 6830 ft.

Santa Ana Rancho Wildcat Descending

On the path downward toward surmised oil sands is Superior Oil's Chismahoo No. 1 wild kitty on Sec. 9-4n-24w on the Rancho Santa Ana, Ventura County. Near the Los Angeles-Ventura County line on the Ventura side at Newhall-Potrero, Newhall Land & Farming Company's County Line No. 1 continues to bite deeper at a depth of 5405 ft.

Ojai Tests Make Progress

Bankline Oil Company's B. & L. No. D-1 on Sec. 12-4n-22w in the Ojai area is drilling at 5502 ft. On Sec. 11-4n-23w, E. H. A. Andrews is drilling and corring around 3000 ft. with Carty No. 1 test. In the Upper Ojai area, Richfield is ready to start work on its Hillside No. 1 test on Sec. 8-4n-21w.

Camulos Rancho Wildcat Coring

Coring and drilling ahead below 7500 ft. composed the latest information on General Petroleum's No. 1 explorer on Sec. 21-4n-18w on the Camulos Rancho, Ventura County.

Standard In San Ardo Area

Standard Oil is rigging its Alexander No. B6-5, an extension test on Sec. 5-23s-11e at San Ardo. Location is 1500 ft. northeast of Superior's Orradre No. 6, which was completed pumping from plugged bottom at 2789 ft.

Harris Test On Calendar

In the Harris area about two miles south of the Orcutt field in Santa Barbara County, Union Oil Company is about to begin drilling its Harris No. A-2 test on Sec. 12-8n-34w. Union has abandoned its Ex-Mission Core Hole No. X-4 on Sec. 25-4n-22w at Wheeler Canyon, Ventura County. The project went to 5720 ft. Two other jobs are in the preliminary stages there. They are Ex-Mission No. X-5 on Sec. 26-4n-22w and Ex-Mission No. X-6 on Sec. 30-4n-21w. In the Canada Larga area, the company's Canet No. 1 on Sec. 9-3n-23w is coring at 4328 ft.

Cat Canyon Try Spudded

General Petroleum has spudded its interesting test on Sec. 9-9n-33w in the Cat Canyon area. The test is called Houk No. 43-9. In the Corral De Quati area, Shell is making hole ahead below 5700 ft. with its Orton No. 1 on Sec. 27-7n-30w. Laguna Consolidated Oil Company's Dabney No. 1 on Sec. 18-7n-30w is a location. On the Rancho Guadalupe, Los Nietos Company's LeRoy No. A-3 on Sec. 22-10n-36w is drilling at 4300 ft. after recovering fish.

Shell Oil Company's Edison No. 25 in the Ventura Ave. field. Left to right: E. J. Clark, head well puller; R. E. Murphy, floorman.

Santa Ynez Wildcat Digs

In the Santa Ynez region of Santa Barbara County, British American Oil Producing Company's Santa Ynez Unit No. 3 on Sec. 6-5n-29w continues to poke deeper at 3780 ft. In the vicinity of Tepusquet, British American's Rancho Suey No. B-1 on Sec. 5-10n-34w is boring at 2160 ft.

Maine Prairie Wildcat Deeper

Drilling at last reports had reached a depth approximating 4600 ft. in Amerada Petroleum's H. & T. No. 2 prospect job on Sec. 2-5n-2e in the Maine Prairie area of Solano County. Shell Oil's Shell-Trico Unit One No. 1 test on Sec. 19-4n-1e north of Kirby Hills is coring at 7900 ft.

Winters Try Digs

Drilling is continuing the even tenor of its way at a depth of 4760 ft. in Mohawk Petroleum's Winters Comm. No. 8-1 test on Sec. 13-8n-1w at Winters, Yolo County. Northwest of the town of Petaluma in Sonoma County, Santa Rosa Exploration Company is making ready to deepen Stephens - Rohnert No. 1 wildcat on Sec. 26-6n-8w from present level of 5790 ft.

Goleta Try About To Spud

About to spud is Rothschild Oil Company's Bishop No. 1 on Sec. 7-4n-28w north of the old Goleta field, Santa Barbara County. Location is no great distance from Jasper Petroleum's Thomas B. Bishop No. 1, which was abandoned at 3240 ft. in 1948.

Martinez Try Idle

Still idle is Lovely Petroleum Company's Almond No. 4 on Sec. 31-2n-2w in the Martinez area of Contra Costa County. The venture was drilled to a total bottom of 4610 ft. and then plugged back to 2700 ft.

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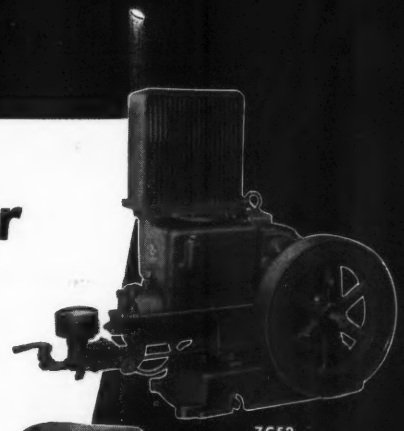
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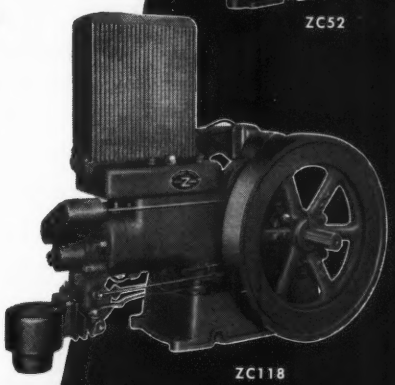
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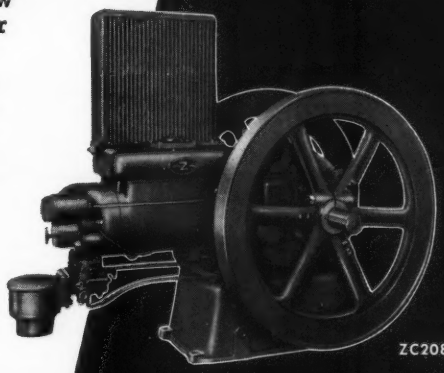
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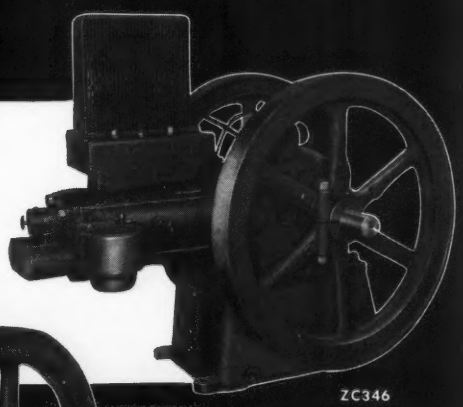
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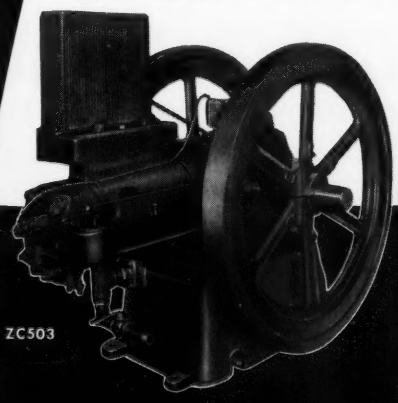
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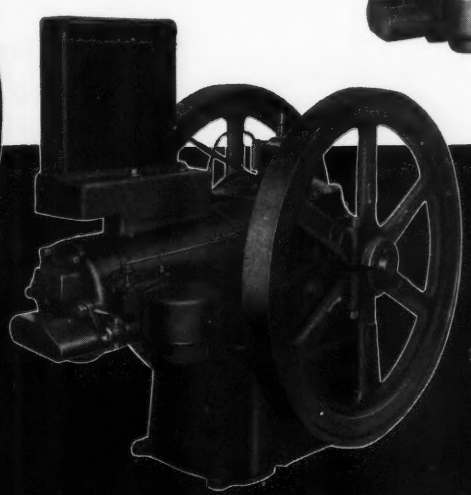
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Ventura Avenue Wildcat Testing

Testing is the order of the day with Lloyd Corporation's No. S-3 wildcat on Sec. 20-3n-22w in the Ventura Avenue area. The project is down 12,293 ft., with casing set just one foot higher. Newell Oil Company's Dixie No. 4 test at Sespe on Sec. 5-4n-19w is drilling at 1380 ft.

Cache Slough Well Staked

Standard Oil has staked its Calif. Packing Corp. No. 7 on Sec. 6-4n-3e in the Cache Slough sector of Rio Vista in Solano County. The well is a direct offset to Amerada Petroleum's Church No. 2 well.

Hopper Canyon Job Makes Hole

In the Hopper Canyon field, Ventura County, E. H. A. Andrews is drilling at 700 ft. with his Commander No. A-13-1 on Sec. 13-4n-19w.

In the Vaca Mountain area, Napa County, Western Gulf's J. N. Knowles No. 1 on Sec. 28-9n-3w is grinding deeper at 7675 ft.

Peachtree Valley Wildcat Drilling

Union Oil's Mee No. 1 wildcat on Sec. 11-20s-10e in Peachtree Valley, Monterey County is prospecting ahead below 5250 ft. Approximately three and one-half miles southeast the company has location staked for Mee No. 2 on Sec. 16-20s-11e. In the San Ardo area, Jergins Oil's McCool No. 126 on Sec. 26-22s-10e has been relegated to history at 2478 ft. South of San Ardo, Wilshire Oil Company, Inc., is approaching drilling initiation with its Hunter-Dryden No. 71-26 on Sec. 26-23s-10e. The Texas Company has equipment at location to drill Alice Garrissere Two No. 1 on Sec. 24-22s-9e at Los Lobos. The company's Pettitt No. 1 wildcat on Sec. 24-20s-7e in the King City area at last reports was coring at 2425 ft.

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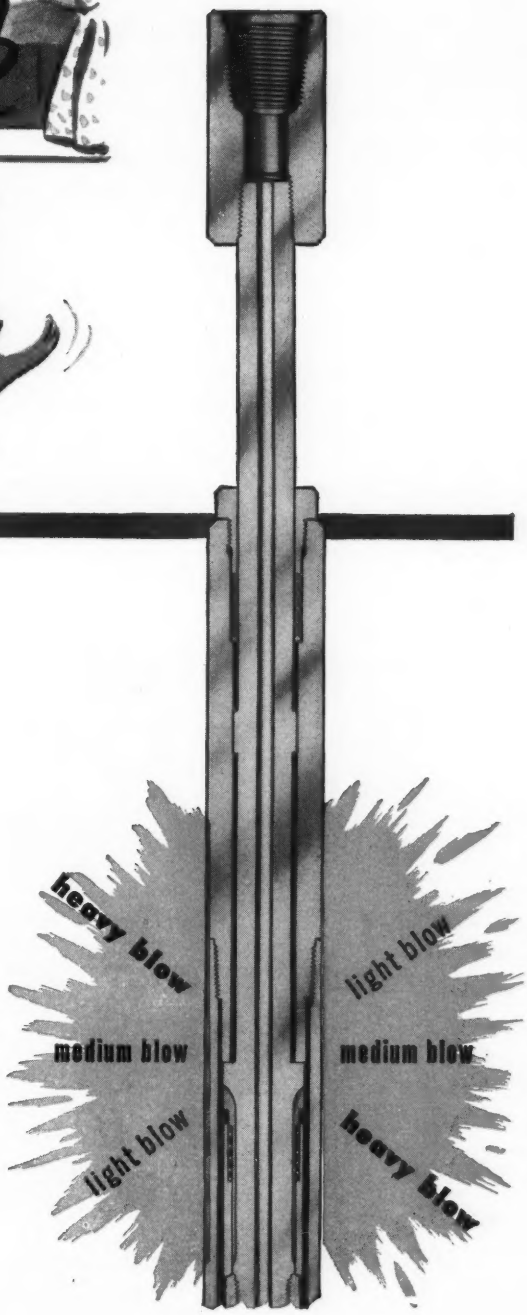

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San Joaquin Valley

Cymric Test Drills Ahead

Between fields at Cymric and McKittrick, L. R. Wilhite's Della Williams No. 1 test well on Sec. 2-30s-21e is drilling ahead at a depth yet inconclusive. Location is on the 314-acre Williams lease and the well is scheduled to take a look at the McKittrick, Santa Margarita and Temblor formations. Hall - Baker Company with the late H. S. Williams drilled a well on the property in 1939 and found some gas. Lack of proper facilities to handle the gas at that time is given as the reason for no ensuing development. Mr. Williams' widow, Mrs. Della Williams of Santa Paula, now owns the lease. Among her many oil interests are two pumping wells in the Timber Canyon field in mountainous country, northeast of Santa Paula. Five other wells have been drilled on the Williams ground. One was drilled way back in 1910 and according to oil history came in for about 35 barrels of oil daily. This oil at that time brought no more than 10 cents a barrel and was being produced in the days the old Lakeview gusher was shrouding the surrounding countryside with a mantle of oil. Wilhite's lease was arranged for by California Lease Company of Hollywood.

Fruitvale Test Pumps

Bakersfield Oil Company of Pasadena has given the final touch to its Hill No. 1, a test well on Sec. 28-29s-27e in the Fruitvale area. Initial yield was 111 barrels a day from a total depth of 4360 ft. The Middle Kernco formation was topped at 4330 ft.

Cuyama Valley Test Working

On the southeast edge of Cuyama Valley Richfield Oil at last reports was drilling and coring at 2460 ft. with its Adams-US No. 1 wildcat well on Sec. 27-8n-24w. Drill site is 18 miles southeast of the South Cuyama field, where the company has finaled its Cox No. 46-5. an extension test on Sec. 5-9n-26w, for 75 barrels a day from a plugged depth of 5834 ft. When Richfield's J. G. James No. 1 on Sec. 9-9n-26w reached 10,820 ft. it suffered a twist off. Remedial work at last reports was in progress. Humble Oil's Federal-Sawyer No. 1 on Sec. 28-32s-20e is digging at 6205 ft.

Camden Try Rigs

Caminol Company of Hanford is rigging its Caminol-Coleman No. 1 wildcat on Sec. 8-17s-20e in the Camden area of Fresno County. B. B. Breckenridge's Georgeson No. 1 on Sec. 31-16s-20e is a location. Southwest of Coalinga, Jennings & Reese's Chevalier No. 2 test on Sec. 12-21s-14e gave up the search at 1274 ft. In the Curry Mountain area, Signal Oil & Gas has pulled out of its Signal-Camino No. 2 on Sec. 31-21s-15e at a dry 4436 ft.

Strand Test Drilling On

North of the Strand area, The Texas Company's KCL-Strand No. 1 wildcat on Sec. 1-30s-25e is making hole at 4320 ft. In the Blackwells Corner area, Texaco's Occidental NCT One No. 1 on Sec. 8-27s-20e is drilling at 10,480 ft. Electric log was run to 10,144 ft. Tolco NTC One No. 1 on Sec. 20-28s-20e may be in line for working over. The project, which went to a total bottom of 5020 ft. before plugging back to 2575 ft., is putting out a few barrels of oil daily and much water. North of Arvin, Kern Valley Farms No. 1 on Sec. 15-31s-29e has been completed at an effective depth of 6320 ft. for 25 barrels a day.

Beer Nose Test Fails

Between Devils Den and Blackwells Corner in the Beer Nose area, Steele Petroleum's Beer Nose No. 1 wildcat on Sec. 6-26s-19e has been abandoned at 2857 ft. in gray sand. Oil sand encountered apparently was of but minor worth.

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McDonald Test Good

Superior Oil Company's Theta No. 43-20 test on Sec. 20-28s-20e on the McDonald Anticline has been completed at 2639 ft. for an initial output of 50 barrels of 19 gravity oil daily. The 6⅝-in. casing is set at 2611 ft.

Devils Den Wildcat Digs

Drilling is going ahead below 2200 ft. in Gilliland Oil Company and C. O. Davis' Strode No. 3 test on Sec. 15-25s-18e in the Devils Den area. In Antelope Valley, Jefferson Petroleum's Still No. 1 on Sec. 14-26s-17e quit at a depth of 1908 ft. in gray shale.

Alpaugh Test Drilling Ahead

Near Alpaugh in Kings County, Standard of California has abandoned its Cutter Unit No. 3 exploratory venture on Sec. 29-23s-22e. At Tulare Lake, General Petroleum's Richardson No. 36-4 at this writing is coring and drilling ahead below 9550 ft. The drill site is on Sec. 4-21s-21e. Operations have been resumed with Barnes & Shadrick Core Drilling Company's Lucier No. 2 on Sec. 19-24s-18e at Pyramid Hills. Present depth is 2300 ft.

San Emidio Wildcat Deep

Growing ever deeper is Western Gulf's KCL-Rock Pit No. 83-12 on Sec. 12-11n-22w in the San Emidio area of Kern County. The hole at last reports was poking at 11,600 ft. The company's McAlpine Comm. No. 57-17 on Sec. 17-29s-25e in the Goose Slough area is drilling inquisitively at 9540 ft. The Texas Company, meantime, has spudded its KCL-Goosloo No. 1 test on Sec. 20-29s-25e.

Kern River Tests Start

Standard Oil Company has started its No. 33-1 test on Sec. 1-29s-27e near the tank farm west of Kern River. It will look everything over to basement. On Sec. 2, John H. Marion of Huntington Beach is beginning work on his Schneider No. 1. Location is on a farmout from Independent Exploration Company, who added new interest to the sector by completing recently its Kramer wells. They are putting out together about 420 barrels daily.

Salt Creek Test Drills

Some 100 ft. north and 500 ft. east from the south quarter corner of Sec. 18-29s-21e in the Salt Creek area, Independent Exploration is drilling at 500 ft. with Roco No. 16 wildcat.

Have you seen Ella Lately?

Ella who?—EleVator, of course, and the chances are you will see her riding around with Ed. Plaugher on the way to some lease in the Valley. ✶ How that fellow does get around peddling Web Wilson Elevators, Tongs, Hooks and Links—not to mention the new Tubing Spider which is going over in a big way. ✶ Always has "Tiger Tooth" Tong Dies in his car too, just in case somebody might be needing 'em. ✶ It is *not* true, however, that he lugs a Web Wilson Connector Hook into cocktail lounges to "hoist a quick one"—his right arm still bends at the elbow. ✶ P.S. A phone call to Bakersfield 2-2376 will reach him day or night.

Edison Area Tests Working

Golden Gate Petroleum Company of San Francisco and United Exploration Company of Bakersfield are drilling at 900 ft. with their Mettler No. 1 wildcat on Sec. 25-30s-29e, south of production in the Edison area.

West Newport Wildcat Fails

C. B. and Mary Douglas have abandoned No. 1 test at West Newport in Orange County. The well on Sec. 21-6s-10w near the intersection of 17th street and Monrovia avenue, quit at 2977 ft.

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Personalities IN THE NEWS

Winter Advances at Lane-Wells

A. B. "Burm" Winter is now Assistant Chief Electrical Engineer for the Lane-Wells Company at Los Angeles.

A. B. Winter

In this capacity, Winter will be concerned with specification, design, and completion of electrical phases of Lane-Wells equipment, along with the acquisition, installation and maintenance of it. He will also be concerned with the investigation of operating problems and recommendation of changes, corrections, inspection, and testing of electrical equipment. Most of his work will be in the fields of Electrical and Radioactivity Well Logging services.

Winter has been with Lane-Wells for 17 years, starting in 1934 as an Electrical Technician in the fields at Houston, Texas. He was Division Radioactivity Engineer at Houston before gaining his present position in California.

Milo M. Hawthorne will take over the position vacated by Winter at Houston. In this capacity, Hawthorne will supervise all Division Radioactivity equipment and will assist in the selection and training of Radioactivity personnel. He will assist the Sales Department in the technical aspects of Radioactivity to insure complete technical application coordination between Sales Engineers and the customers.

Hawthorne came to Lane-Wells in 1947 as a Rigman. He worked in the field until 1950 when he became District Radioactivity Engineer at New Iberia, Louisiana, holding that position until his recent move to Houston.

Effective November 1, 1951, W. J. Edmund was made Chief Petroleum Engineer of E. L. Doheny, Operator. Mr. Edmund resigned from Standard Oil Company of California after being employed as a Development Engineer in the San Joaquin Valley (Kettleman Hills-Coalinga-Taft) for the past six and one-half years. Previous experience included one and one-half years in Saudi Arabia and one and one-half years as Geologist for Henry J. Kaiser Co.

Mr. Edmund graduated from Stanford in 1941 as a Mechanical Engineer and Geologist, is married and the father of three children. He is the oldest son of H. W. Edmund, recently retired executive of the Coast Counties Gas & Electric Co. and past president of the Pacific Coast Gas Association.

R. G. Follis, chairman of the board, Standard of California, was host at a luncheon given for Brigadier General David Sarnoff at the Gold Room of the Fairmont Hotel, San Francisco. The General spoke on "Research and Industry—Partners in Progress." The event commemorated the fifth anniversary of the founding of Stanford Research Institute.

Republic Supply Promotes Robert E. Deshon

Robert E. Deshon, formerly Sales Order Manager for The Republic Supply Company of California, has been advanced to Assistant to Vice-President and General Sales Manager W. Dale Russell, according to an announcement from Roy W. Johnson, Executive V-P for Republic.

Robert E. Deshon

This move is part of a continuing program for developing the company's sales organization and improving management practices to keep pace with the rapid growth of the firm's business.

Deshon's position is an entirely new one in the company's organization setup. It has been created to coordinate the sales activities of the various departmental and regional sales managements, and to develop and implement a company-wide sales promotional program as directed by the Vice-President, General Sales Manager.

Deshon has been with The Republic Supply Company of California since January 1940 when he

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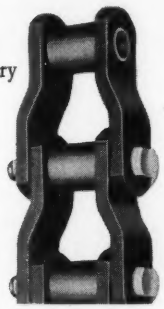

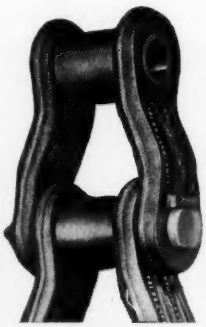

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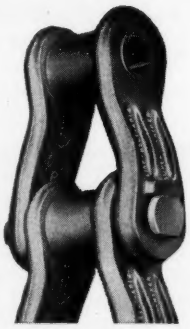
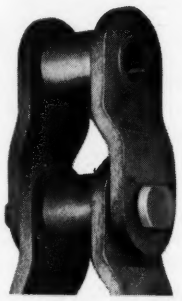
The engine chain built for the most rugged service.

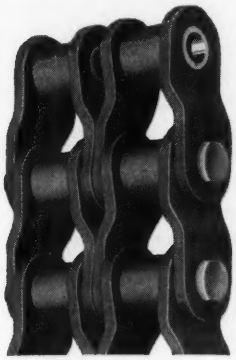


A. P. I. 4 SUPER HYPER PRECISION CHAIN
Advanced, exclusive Link-Belt design assures maximum strength and stability with minimum weight.



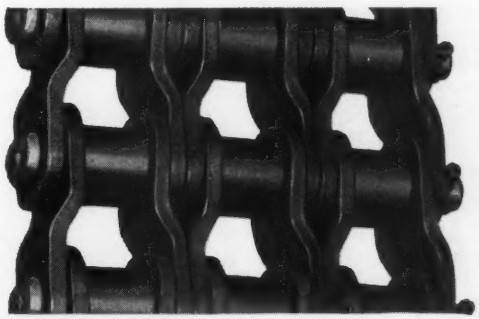
SS-3125 HYPER SINGLE

SS-3125 HYPER DOUBLE



LINK-BELT Chains are known for stamina

SS-3125 Hyper, 3.125″ Pitch Chain in Single, Double and Triple Widths, is engineered and precision-built to give far greater strength, durability and safety factors than are needed, or specified by the most exacting operators—even for the high speeds and heavy loads encountered in today's extreme drilling depths. It will withstand with ease the hardest tests to which a rotary chain can be put in drilling service.



SS-3125 HYPER TRIPLE

These chains come boxed—easy to handle —ready to go.

LINK-BELT COMPANY
Indianapolis 6, Dallas 1, Houston 1,
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Distributors in all fields. 12.521

LINK-BELT
CHAINS and SPROCKETS

started as an office boy in the Los Angeles offices. After 8 months, he worked successively in the company field stores at Bakersfield, Taft, Santa Maria, and Newhall to acquire experience in the firm's branch operations. He then was transferred to Oakland headquarters, where he spent a year before Uncle Sam tapped him for the army. Four years later he returned to the Los Angeles offices and entered the Purchasing Department where he only spent 6 months before being made Manager of the Order and Quotation Department. With this position as a base of operations, new supervisory duties, such as traffic, price, warehouse, advertising, etc. were successively laid in his lap, all of which he accepted willingly, and through which he proved his capacity for management and organization.

Deshon is a graduate of University of California at Los Angeles where he majored in business administration.

Other Personnel Changes at Republic Supply

W. F. "Wes" Sprague, formerly branch manager at Republic's Santa Fe Springs store, will take over Bob Deshon's former position as Sales Service Manager at Los Angeles Main Headquarters.

Mark L. Banks, formerly store manager at Long Beach, will replace Wes Sprague at Republic's Santa Fe Springs Store as Branch Manager.

W. A. "Bill" Jameson, formerly manager of Republic's Avenal Branch, is replacing Mark Banks at the Long Beach Branch as manager.

George Cadet has been made Branch Manager at Republic Supply's Avenal store.

Sam F. Bowlby, Shell Oil Company vice president in charge of exploration in the West, delivered the keynote address at the eighth annual meeting of the Rocky Mountain Oil and Gas Association at Denver. He commented that "to a nation that requires 6,000,000 barrels of oil every day the petroleum potential of the vast Rocky Mountain region can mean a great deal here, as well as to the country's wealth and security."

Hoylman Addresses L. A. Basin Chapter A.P.I.

H. Wayne Hoylman, Geophysical Consultant, was the featured speaker at a recent meeting of the Los Angeles Basin Chapter of the A.P.I. Over 250 members and guests enthusiastically received Mr. Hoylman's presentation of, "The Air Borne Magnatometer and its Application in Locating Oil Structures."

H. Wayne Hoylman

Mr. Hoylman traced the development of this tool from its inception as a defensive weapon for the detection of enemy submarines, during World War II, to its present wide use in prospecting for and defining possible oil structures.

By use of slides, showing actual surveys, Hoylman emphasized that the correct interpretation of the survey data is the chief obstacle to achieving success with this tool.

Included in the slides, were specific areas in West Texas, New Mexico, and Western Canada, showing the relationship between the magnetic surveys and the subsequent productive limits of the areas.

Richard Miesse has returned to field operations in California after an absence of some years in the Mid-Continent field. His California headquarters are at 200 Mantua Road, Pacific Palisades.

Valmar Oil Company has been newly organized in Los Angeles. Officers and directors are Margaret V. Kahler, Vera Ely and John Welborn.

Al Tracy Named Manager For Pacific Coast By Wheatley Co.

"Al" Tracy

Alan C. "Al" Tracy has been appointed manager of the new Pacific Coast sales office opened recently by the Charles Wheatley Company in the Tilden Sales Building, San Francisco, California.

Tracy was formerly sales manager of Petroleum Equipment Company in San Francisco and was also with the sales department of the Marshall-Newell Supply Company.

With the opening of this office, the Wheatley Company also announces its appointment as exclusive sales representatives in the Pacific Coast area for Wheatley pumps and parts. The company recently took over exclusive sales of Wheatley pumps in the Mid-Continent area.

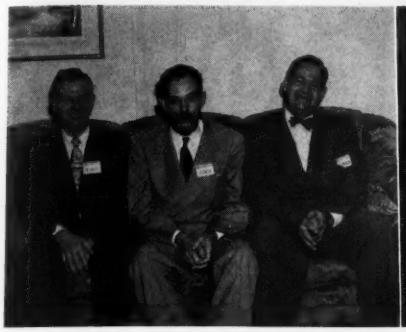
Other Wheatley offices or warehouses which handle a complete line of petroleum and industrial equipment are located in Bartlesville, Seminole, Oklahoma City and Tulsa, Oklahoma; Dallas, Houston and Odessa, Texas, and Shreveport, La.

General Petroleum Corporation announced in Los Angeles that Wallace E. Johnson has been elevated to the post of Washington divisional industrial relations manager for the company's marketing department.

Frank A. Morgan, vice president of Richfield Oil, and president of the American Association of Petroleum Geologists, was the principal speaker at the meeting of the Gulf Coast Association of Geological Societies in New Orleans. From there he went to Caracas, Venezuela, where he spoke before the Associacion Venezolana de Geologia.

George Crawford Atha, widely known Los Angeles engineer, geologist and oil producer, has returned from a trip to Texas and other Mid-Continent states. Atha makes headquarters in Los Angeles.

Candid shots taken at annual meeting A.A.P.G.--S.E.G--S.E.P.M.

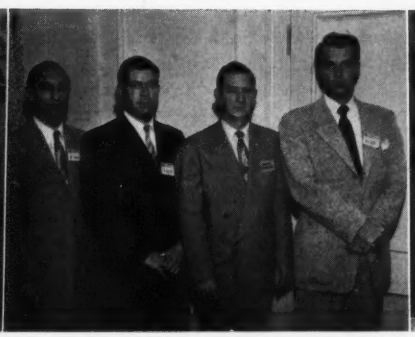


J. W. Knight, Frank B. Carter, Frank Parker, all past officers.

T. L. Bear, J. B. Hudson, S. G. Wissler

New officers AAPG, Pacific Section, Rufus M. Smith, Sec'y-Treas.; H. J. Steiny, President; H. H. Sulliwold, Jr., Vice President.

Joe Hathaway, Ben Lupton, Bob Kelly



M. Sklar, Sec'y-Treas. SEG; R. B. Galeski, V. P. Northern District SEG; W. L. Matjasic, President SEG Pacific Section; D. H. Scott, V. P. Southern District SEG.

Jack West, L. H. Mitzner, W. L. Matjasic

M. S. Davis, F. B. Carter, Wallace Pratt

Jack Knight, Sam Stewart, Lou Newfarmer.

Curtis H. Johnson, Nat'l. V. P. SEG; Sigmund Hammer, Nat'l. Pres. SEG; K. O. Emery, Nat'l. V. P. SEPM.

Mark Morris, Bakersfield operator, who has been particularly successful in the Edison area, has been staying in Los Angeles for the past several weeks. He is understood to be formulating new drilling plans for various Kern County oil areas.

Richard Charles King, independent oil operator, has returned to his desk at Phoenix following a business visit in Los Angeles. King is holder of extensive ground in Utah, Texas and other states.

Joseph M. Gross, president of Aeco Corporation, announces new offices of the firm at 527 North La Cienega Boulevard, Los Angeles 48, Califofnia.

Charles Z. Hardwick, vice president for marketing of Ohio Oil Company, is the new national chairman of the Oil Industry Information Committee, succeeding John Dupree. G. Stewart Brown, Standard of California, has been named vice chairman for the Pacific Coast, succeeding C. Haines Finnell, Union Oil Company.

With Drilling Contractors

"Diggin' Dope," published by and for the employees of Brown Drilling Company of Long Beach, gave a resume of the company since its inception in a recent issue.

Here in part it is:

"Brown Drilling Company was started in 1937 as a one-rig operation by Mr. Brown. At the present time, we are operating seven rigs in California. We specialize in drilling from 3500 to 9000 ft. Our rigs are now located in the Edison area, in Bakersfield, near the towns of Dixon, Arvin and San Ardo and in the Rio Vista gas fields in Northern California. Rio Vista area is a field in which we have pioneered drilling and have drilled the majority of wells in this famous gas field. Our main office, of course, is 1456 East Hill street, Long Beach, California. As you know, Mr. E. C. Brown is president. Also in this office are R. V. Towner, our treasurer; and A. J. Heiser, engineer. We have two branch offices in California, one in Bakersfield, headed by D. W. Green, drilling superintendent, assisted by Milt Dreblow, maintenance engineer. Our Rio Vista office is headed by Walter Musolf, assistant superintendent, ably assisted by Jim McKeown, construction foreman. Our Wichita Falls, Texas, office is headed by A. F. Ausanak, engineer. Our producing operations in the Mid-Continent area are handled from this office. A list of our toolpushers follows: Charles Copenhaver, Sid Dewey, Al Dysart, Orville Fraker, Newell Hunnicutt, Oscar Loveless, Mark Spivey, Bill Tate, Chuck Wilder and J. M. Wilson. The company has drilled 694 wells for a footage totaling 2,599,950 ft. through July 1, 1951. From January 1 to July 31 in the year current we have drilled 45 wells for a footage totaling 166,048 ft. We pioneered contract drilling in foreign countries. We have drilled wells in Saudi Arabia for Aramco, Bahrein Island for Bahrein Petroleum Company and in the Kuwait neutral zone for American Independent Oil Company. Needless to say, we are very proud of our record in these areas. It may be interesting that our toolpushers and superintendents as a whole have been with the company 114 years and have chalked up supervisory experience aggregating 70 years. It is our policy to promote drillers to toolpushers. We have never gone outside of our own company for a supervisor."

Union Oil, one of the first California companies to recognize the advantages in having all their wells drilled by contractors, currently is using 19 contract strings in this state. Five are busy in Los Angeles Basin, six in the Coastal division and eight in the Ventura division.

Thomas P. Pike Drilling Company has extended its field operations to Texas. In the Midland area, Pike is poking down a well for Mendota Oil Company. Toolpusher Bill Klassen, who supervised the Pemex contract in Baja California, is in charge. Pike is drilling another well for Ed Pauley in the Reynosa field, northeast Mexico, where Pauley already has five wells producing.

Contract has been awarded to McAteer Drilling Company to redrill a well in the Huntington Beach for A. H. Trester and Carlton Beal. The well at present is down 3840 ft. It was drilled originally under the banner of Carl A. Guercio on Sec. 10-6s-11w.

Pioneer Drilling Company has completed Union Oil's Callender No. 83 on Sec. 32-3s-13w in the Dominguez field at a plugged depth of 8691 ft. Representative gauge on outputs is not yet available.

Atlantic Oil Company, contractor, is nearing the spudding act with Delaney Petroleum Corporation and Charles E. Cather's Cather No. 3 on Sec. 13-4s-13w at Long Beach.

Rocky Mountain Drilling Company continues to dig deeper with Standard Oil Company's UONPR No. X55-30R test on Sec. 30-30s-23e at Elk Hills. The well as this is set down was below 12,750 ft.

A. W. Thompson, president of the American Association of Oilwell Drilling Contractors, urges all contractors to check their scrap pile. He pointed out that steel production is climbing steadily to new levels and that a flow of iron and steel scrap to the various mills is not keeping pace with needs. It is estimated that 32,500,000 tons of scrap will be required the year current and in 1952 an even greater amount will be called for. Thompson suggested that contractors everywhere place scrap collections on a basis akin to strict housekeeping. The association executive said: "Besides increasing the steel supply, continuous scrap recovery of obsolete and worn out equipment reduces taxes through inventory write-off and consequent improved safety conditions around the rigs betters operations generally."

The nation's drilling contractors now are working at a record pace, despite shortages of material and manpower which cannot be considered in any light as conducive to efficiency. This is the natural aftermath to the increasing demand for larger and larger oil reserves in the country.

STRONG RIG...weak Link

BJ FIXES—

quick as a WINK!

With BJ factory rebuilding you're assured of the correct welding and heat treating techniques—of magnaflux inspection before and after repair—and of the "experience and knowledge of the men who made 'em."

Here's how your field-worn tools are rebuilt the BJ way.

Complete factory overhaul includes—

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Find out more about BJ's oil tool rebuilding service from your jobber or BJ representative today!

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The men and machines that made 'em know 'em best!

Rocky Mountain NEWS

Colorado—Idaho—Montana—New Mexico—Utah—Wyoming—Western Canada

It was a time for stock-taking of accomplishments at the annual meeting of the Rocky Mountain Oil and Gas Association in Denver in mid-November—looking back on a record breaking year of achievement in the oil industry of the region. The discovery of the Williston Basin in April of this year stood out as an event of national significance and led many outstanding oil figures at the meeting to predict that the Rocky Mountain region may be on the threshold of other important discoveries opening up vast new potentials of petroleum production.

It was a year that had witnessed the drilling of 365 wildcat wells in the first 10 months—of which 59 were rated as discoveries and 23 on the way to completion as apparent new finds. Of these, 102 were drilled in Wyoming — making 18 oil discoveries and one gas discovery for that state. In the Julesburg Basin, there were nine oil pools opened up in Nebraska and 10 in Colorado; plus eight apparent new discoveries in the testing stage. In the Montana part of the big Williston Basin, four wildcats have recovered oil on tests and were nearing completion.

The impetus of new oil finds encouraged the industry to continue drilling in spite of the first onslaughts of winter, which arrived early this year. Winter snow and cold have not slowed the pace, and at least a score of new wildcats were launched late in November. Twelve of these were in the Julesburg Basin, where winter drilling conditions are not too severe. Seven were in Wyoming—which can be rugged during most of the long winter months—and one was staked in South Dakota, still in the list of hopeful states.

Shell Oil Co. completed the first failure in the current Williston Basin boom, when its deep test in Perkins County, South Dakota, was abandoned at 9348 ft.—18 ft. into the granite. Small shows of gas were logged, which provided some encouragement for South Dakota, but these were not commercial.

Shell's vice president for exploration in the west, S. F. Bowlby, was not discouraged. The Los Angeles executive told the large crowd at the RMOGA convention in Denver that the Rocky mountain region is a "new land of promise."

"I do not mean to imply that we merely suspect oil to be here," he said. "We now know that vast new oil provinces have been added to those which already produce."

While oil is not new to this area, small production in the past, along with the lack of markets and adequate transportation, has served to keep the industry's attention focused elsewhere. Still, said Bowlby, the area has not been overlooked, for "of the 44,000 wells that it is estimated will be drilled in America by the end of this year, at a cost of 1.5 billion dollars, I would venture to say that a greater percentage than ever are in this area.

"To a nation that requires six million barrels of oil every day, the oil potential of this Rocky Mountain area can mean a great deal to the people here, as well as to the nation's wealth and security." Bowlby went on to say that the Williston Basin alone is capable of becoming one of the world's great producing areas. In peacetime, this is an asset, he emphasized. To a country arming to maintain peace in the world, it becomes a powerful weapon added to its arsenal.

A warning note, however, was sounded by Walter Hallanan of Pittsburg, Pa., president of the National Petroleum council. He told convention delegates that the industry does not want any subsidy, but does need a price increase based upon equity and sound economic considerations.

The Plymouth Oil Co. president advised the industry to look at the present oil situation realistically and declared it is being deluded by a pleasant though fanciful mirage.

"We seem to be riding the crest of the wave," Hallanan said. Pointing to record productivity, reserves and drilling operations, increased profits, reduced imports, expanded exports and recent approval of the depletion allowance, he declared "it seems too wonderful to be true.

"That's just the trouble," he added. "It isn't all true. We cannot close our eyes to the fact that reduced imports, increased exports and at least a portion of our present high productivity are due entirely to the complete shutdown of production in Iran—a condition which we cannot expect to continue indefinitely.

"It is true that we are drilling more wells than ever before, but when we measure our drilling operations in terms of increased production, we are not even keeping pace with last year.

"Despite the threat of an immediate world surplus of oil when production is restored in Iran and despite other considerations that cast some uncertainty over the future, we cannot in good conscience slacken our effects. The industry's profit picture is completely distorted in that the industry's income bears no relation to replacement costs."

He declared that one half of the nation's oil production comes from fields that were discovered and developed from 10 to 20 years ago at costs far below those existing today. He warned that the President had placed the industry on notice that the effort to reduce the depletion allowance will again be taken to Congress at the January session, and reminded oilmen

that four years had passed since a price increase had been made in crude oil—while prices of every other commodity had skyrocketed.

There was the usual persistent concern at the convention over the future course of the free enterprise system and how it might fare if present trends of government continue indefinitely. Some oil men had expected Senator O'Mahoney (D-Wyo) to discuss synthetic fuels at a luncheon address. But the solon made no direct comment. Citing the record of the Rockies in oil discovery, he said that more oil is yet to be found by the processes of technology, and that the nation must also strive for production in every other line. He drove home the point that there is no profit in war, but that by working together for peace, we can promote the capacity of the people to consume, and that we can show other nations that it is possible to produce on this earth for all the men, women and children.

Several companies were genial hosts during the convention and Charles S. (Red) Hill, Denver independent and a born orator, did a masterful job of presiding at the sessions. Hill was reelected president of the association. Vice presidents for the coming year are G. J. Mueller, Argo Oil, Denver; J. L. Dougan, Equity Oil, Salt Lake City; A. F. Barrett, General Petroleum, Casper, and W. M. Saxon, Pure Oil, Billings. Walter G. Davis, Casper independent, was reelected treasurer.

The executive committee includes the officers and C. L. Larson, Stanolind Oil, Casper; J. L. Aitken, Continental, Denver; H. H. Healy, Ohio Oil, Casper; J. R. McWilliams, Carter Oil, Denver; C. L. Pickett, California Co., Denver; Claude Peavy, Phillips Petroleum, Denver; T. F. Freeman, Texas Co., Denver; J. P. Moroney, Sinclair Oil, Denver; Glenn Nielsen, Husky Oil, Cody; H. B. Gernert, Trigood Oil, Casper; R. S. Shannon, Jr., Pioneer Oil, Denver; R. D. Smith, Union Oil, Great Falls, Mont.; J. E. Manning, Mountain States Drilling Co., Denver, and E. S. Holt of Utah Refining, Salt Lake City.

More than 700 oil men and their wives were registered for the eighth annual meeting, which closed with a party given by Halliburton Oil Well Cementing Co.

It was the season for other confabs in the region. More than 100 oil men gathered for the regional meeting of the Independent Petroleum Association of America (IPAA) in Casper. Col. H. B. Fell of Ardmore, Okla., brought oilmen up to date on IPAA's plan to seek an adjustment in crude oil ceiling prices, as well as the outlook for steel needed to continue industry operations, public lands, natural gas and oil imports. IPAA recently intervened in the request of two Montana concerns seeking permission of FPC to import Canadian natural gas into the Rocky Mountain region.

The picture of Canadian exports of natural gas is slowly taking shape. Recently the Northwest Natural Gas Co. and Canadian Gulf Oil Co. concluded an agreement for disposal of Southern Alberta's big Pincher Creek gas reserve over a 25-year period. The agreement would permit Northwest to supply the Pacific northwest market in the U. S., Vancouver, B. C., and other cities.

In other news of the region, sale of the Bonanza oil field in Big Horn county, Wyoming, for $20,000,000 attracted attention. Dr. Victor Ziegler, geologist, who discovered the prolific field, had announced sale of the property to an independent Texas group. However, the geologist's former prospecting partner, J. Robert Warren of Elkhorn, Neb., filed suit in federal court at Cheyenne seeking a half interest in the field. Warren claimed ownership of all leases involved. About 40 persons originally invested in the venture and later were issued stock in the Bonanza field, which now has 10 producing wells capable of yielding 25,000 to 30,000 bbls. oil per day. The first well was brought in a year ago.

Warren's attorney said his client and Dr. Ziegler prospected together through South Dakota, Wyoming and Nebraska during lean years before the discovery in Wyoming paid off. Two other actions involving the Bonanza Oil Co. holdings have been filed in the district court at Big Horn county, Wyo.

Interest continues to center in deep basin ventures in the Rocky Mountain region. Pure Oil Co. has announced a test in the deep portion of the Powder River Basin in Wyoming. The well will be on the Johnson-Campbell county boundary northeast of the Sussex-Meadow Creek fields. This area gained the headlines again recently when the joint Stanolind-Continental venture north of the town of Kaycee recovered oil in the Tensleep sand below 6485 ft. There were no shows in the Sussex, Shannon or Lakota sands which produce in the Sussex-Meadow Creek area further south, but the Tensleep discovery renewed interest in the northwest flank of the Powder River Basin.

In the second deepest well ever drilled in Wyoming, Pure Oil was below 15,925 ft. at West Poison Spider, west of Casper, and nearing the objective in the Dakota-Lakota series at an estimated 16,000 ft. The well was deepened from 10,128 ft. in Mesa Verde. The discovery well in the field produces from Frontier sands at 14,309 ft.

Shell is testing in two Williston Basin wildcats in Montana. Casing was set at 9500 ft. in the Pine Unit and testing is under way in the Ordovician. There was some oil in drill stem tests of that formation. Shell plugged back to 10,035 ft. for testing in its Richey, Mont., wildcat.

Amerada's No. 1 Risser in the Croff area of McKenzie county, N. D., remains in the uncertain category. Now drilling at 9750, the wildcat has reported no significant shows to date.

Far West Oil Co. of Casper, a small independent, finally lost its record of "no dry holes" after an unbroken record of success, chiefly in the South Glenrock field of central Wyoming. The company turned up a duster in a wildcat at Logan Gulch in Fremont county, where Embar lime proved too hard and tight to produce after acidization.

Sinclair continued "mum" on reports of oil shows on its wildcat in the East Salt Creek area, but ran casing on the venture and prepared to complete the well. Reports of shows in the Wall Creek and Lakota sands were not confirmed officially.

Trigood Oil Co. of Casper staked location for a wildcat just west of the town of Greybull. Other tests in the Big Horn Basin of Wyoming are being watched with interest, including Husky's venture in the Five Mile area, Texaco's well at Foster Gulch, and the Gulf Oil deep test at the Worland prospect in Washakie county.

A new sulfur enterprise shaped up

The most powerful gasoline your car can use!

It's Activated!

Today Shell gives you the most powerful gasoline your car can use—Shell Premium—it's *activated*.

Using the finest crude oils, Shell scientists *activate* the gasoline molecules by splitting and rearranging them.

Get a tankful of *activated* Shell Premium today. Your Shell Dealer is the man to see.

SHELL

SHELL PREMIUM GASOLINE

in Park county, Wyo., to utilize hydrogen sulfide gas from the Silver Tip field developed by Seaboard Oil Corp. Three Pacific Coast pulp and paper companies announced plans to build a $1,314,000 plant near Powell, which will process around 100 long tons of sulfur per day for shipment to pulp and paper mills in Washington and Oregon. A defense production administration certificate was obtained by the three firms: Rayonier, Inc., Crown Zellerbach Corp., and Soundview Pulp Co. The certificate allows 80 percent of the plant cost to be written off in depreciation for tax purposes in five years. A similar sulfur recovery plant is operated by Stanolind in the nearby Elk Basin field. The new plant will make possible greater production of crude oil at Seaboard's Silver Tip field.

Considerable development drilling is looming up in western Sioux county, Nebraska, where Continental Oil Co. has completed a deal for purchase of a well which recently had good oil showings. It was reported Conoco paid a substantial price to Denver operators E. R. McElroy, E. A. Markey, W. M. Hopkins and H. A. Flader for the properties located northeast of Torrington, Wyo. The well, No. 1 George J. Carpenter in section 7-26n-57w, was drilled to 5944 ft., and apparently is the first successful commercial venture this far north in western Nebraska.

Recruiters for roughneck labor in the Torrington area said Continental plans to operate eight drilling rigs in the vicinity of the discovery. The company is now drilling a wildcat across the line in Goshen county, Wyo.

In Utah, Equity Oil is testing shows in the Phosphoria at the East Ashley Valley wildcat five miles east of the Ashley Valley field. Small amounts of oil were recovered from that zone, and the venture will deepen to Weber sand, productive at Ashley Valley.

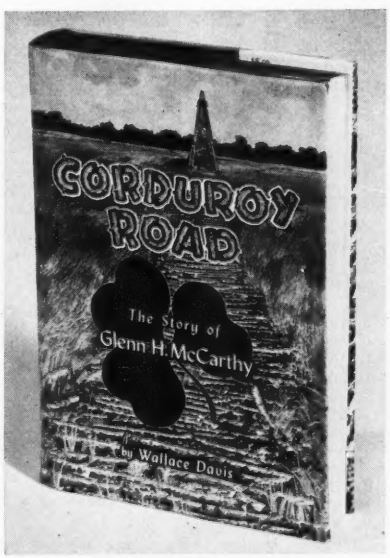
The U. S. Geological Survey has approved unit plans for the Antelope Creek block in southern Duchesne county, Utah. Robert H. Miller, Los Angeles operator, has been active in the big Uintah Basin for some time, acquiring large lease holdings. Recently he completed a deal with Continental on lands in the southern part of the Basin. The Antelope Creek unit is south of Carter and Continental's discovery at Duchesne, where a second well is now drilling.

Salt Lake scouts have formed an association known as the Utah Association of Landmen and Scouts. Ralph D. Stauffer, district landman for Sinclair, was elected president of the new group, which will hold regular weekly luncheon meetings at Salt Lake City. Other officers are E. W. McCain, California Co., vice president, and Jack Hanson of Gulf Oil, Secretary. Directors include Myron Munson, Carter Oil, and E. W. Mitchell, Phillips Petroleum.

Corduroy Road, the Life of Glenn McCarthy, New Oil Field Saga by Wallace Davis

This life of the spectacular wildcatter, is of great historical importance in its portrayal of what bare hands and guts could accomplish in the era we have all but lived through. Maybe it can never be done again. McCarthy is a type without whom Texas wouldn't be Texas. This is not a gentle book, but you close it feeling that here is a man's man who lived in a great State in a great Nation. This son of Spindletop who ploughs his way through the muck of the oil fields to the heights of The Shamrock and New Ulm.

Wallace Davis' rugged treatment of McCarthy is like a jagged graph of McCarthy's life. He throws a searching beam on a series of chronological episodes, making each chapter complete in itself, and each chapter packs a punch.



The oil business is laid bare. The book, if indexed, would approximate an encyclopedia of petroleum. An astonishing map of the coastal area supports some almost incredible statements in this field.

This chronicle of McCarthy's variegated life experiences, from filling station attendant to oil millionaire, from dry cleaning business to top tavern keeper, from mud-soaked oil field worker to movie magnate—is chock full of drama, dynamic energy, McCarthyisms and sly wit. Such a man could happen only in America.

The author, Wallace Davis, is well known in the Oil Industry—was for many years a writer for oil publications, and for the past two decades has operated a prominent industrial advertising agency on the Gulf Coast. The book will be available at leading book stores.

Edison Groves Wildcat Begins

Commencing in the citrus sector between fields at Edison Groves and Race Track Hills is Kern Oil Company Ltd., with its Portals No. 1-2 on Sec. 33-29s-29e Location is one mile east of the Edison Groves field, opened up about a year ago. Kern Oil drilled without success last September on land a short distance south of the new wildcat.

McKittrick Wildcat Digs

Four miles west of McKittrick, the Bender-Stansbury-Webb combination's followup to its discovery is making hole below 4900 ft. Called Anderson No. 2, the well is on Sec. 15-30s-21e. The discovery well was completed at a depth of 5011 ft. Others with acreage in the area, in addition to the present combination now operating, include Tide Water Associated, Shell, Hancock and CC-MO.

Eric A. Johnston has resigned as Economic Stabilization Director, effective November 30. Johnston is resuming his post as president of the Motion Picture Association, which he left last January on leave of absence. Johnston recently told the President that "in all fairness" to MPA he felt he should return to his post as movie czar.

Bethlehem Delivers First M-58 For Coast

One of the newest of the medium depth drawworks on the Pacific Coast is Bethlehem's M-58 which was recently delivered to Acme Drilling Company of Long Beach.

The unit is now making hole for Bankline Oil Co. on their BL-D1 well in the Ojai area. According to current users of this equipment, there is not a rig of this size that can be moved so easily and so quickly from one job to the next. It also provides wide latitude in a choice of engines, engine combinations and pump drives.

The Acme Drilling Co.'s M-58 Rig is powered with two 375 H.P. LRO Waukesha engines driving through a sectionalized compound and chain transmission. New field-proven high-capacity Bethlehem air-friction clutches are installed as the drawworks drive clutch, rotary clutch and in the high and low speed drive at the main drum. Bethlehem Gear-Spline Clutches provide fast, positive shifting in the transmission and are used for engine compounding. 46-inch, extra powerful brakes are cooled by an enclosed circulating water system. Throttle and shifting controls are centralized at driller's station in convenient relation to the brake lever.

Speed of assembly of the new Bethlehem CM-2-A compound is unbelievably fast. Husky Dowell pin positioners provide fast, simple and correct alignment. The large compound cases allow ample room for quick chain connection and maintenance.

The new Bethlehem 450, 7¼x16 Mud Pump is the main pump and is driven by a 500 h.p. Model LRZU Waukesha engine. This is the first of this model Waukesha to be used in Pacific Coast drilling. Bethlehem's 150-TA Swivel is used with its double packed wash pipe which has found so much favor with long-time periods between wash pipe replacements.

Acme's Drilling Unit is complete with the new 133 ft. Ideco "Full-View" Derrick and a nine-foot substructure. The quick assembly features and mobility of these further reduce the problem of moving costs.

Sievers Corp. Issues New Brochure

The W. E. Sievers Corporation of Long Beach, California, and Homer L. Twining of San Antonio, Texas, have published a new brochure on the "King of Thieving Formations," Kingseal, an additive to prevent and eliminate lost circulation in Rotary Oil Well Drilling.

Kingseal is a highly engineered additive basically consisting of wool, cotton, jute, synthetic fibers (such as rayon and nylon), wood fiber, and/or sawdust of a varied and determined particle size.

The sawdust starts a plugging action at the point where the clay particle has lost its efficiency. The fibers (wool, cotton, jute, wood fiber, and synthetic fiber) interlace and adhere to every shape of the thief formation whether it be crevice, fissure, crack, or the interstices in a

Sam Brooks with the crew of the Acme Drilling Company standing at the driller's station on their new M-58 Bethlehem Drawworks. The crew is, left to right: H. C. "Sparky" Cowan, C. H. Mitchell, cathead man; C. C. Bragg, derrickman; N. Cook, pipe racker; W. A. McGuire, lead tong man; E. W. Hughes, driller.

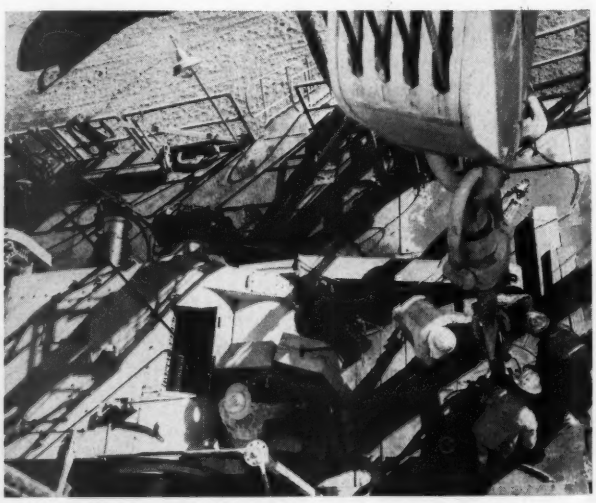


Photo shows Bethlehem M-58's control convenience to driller.

large grain or gravel bed. The sawdust, meanwhile, fills in these interlaced accumulations of fibers until a sheath or plug has been formed into almost a cementatious combination. The finished combined accumulation may be likened in looks and strength to felt, as in a felt hat. The strength of this accumulation resulting from the interlocking and interlacing of the fine textured sawdust and efficient fibers, is such that the more pressure put against them the greater their adherence to one another. The result is a tailored plug to fit each interstice, crack, or crevice, rather than forming a thick filter cake upon the walls of the drilled hole, as is common with many lost circulation materials. The running in and out of the bit or core barrel cannot interfere with the innersealing since no important "scab" exists in the lost circulation point. The sealing has taken place within the formation itself.

In ordinary sealers, the basic prescription of the regular drilling fluid often must be changed by adding large quantities of gel or clay at the first threat of lost circulation. No changes are necessary in the drilling fluid prescription when Kingseal does the job.

Kingseal can be used equally well in any type of clay base mud, oil emulsions, and oil base mud. Kingseal does not change the chemical value of any mud nor does it sour or deteriorate, regardless of time.

The William E. Sievers Corporation at 2875 Cherry Avenue in Long Beach, is the exclusive Kingseal distributor for: Arizona, California, Colorado, Idaho, Montana, Nevada, Oregon, Utah, Washington, Wyoming; and Chile, Equador, and Peru, in South America.

Ideal Type 130 Consolidated Rig for Deep Drilling

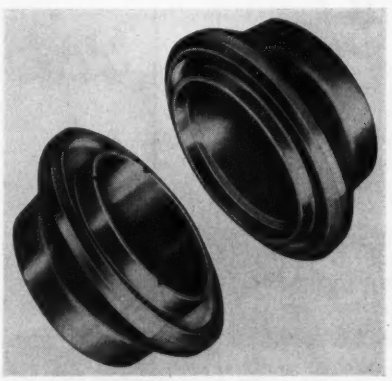
A 16-page bulletin just released by The National Supply Co., Toledo, Ohio, describes its Ideal Type 130 Consolidated Drilling Rig incorporating a 1300-input-horsepower draw works, which has proven itself in today's deep and fast moving drilling operations. Incorporated in the rig are recent improvements and the time-proven features including centrally located air actuated controls; air operated clutches, brakes and catheads; and two-section construction for easy transportation.

The text, supplemented by numerous photographs, describes these and many other mechanical features that are highly important for deep drilling, and shows how they improve operation and serviceability of the rig. Exploded views show the working parts and construction details of the Ideal DY-A-FLEX clutch, rotary drive countershaft and gear box, catshaft and cathead drive and power transmission. A table of specifications together with a plan drawing of the rig gives various shaft sizes and speeds as well as permissible line speeds and loads.

Scale Free Petroleum Piping Can Be Erected With New Coupling

A new product, the TUBE-TURN SF (scale-free) Welding Coupling, now makes it possible to eliminate damaging welding scale from piping systems.

The TUBE-TURN SF (scale-free) Welding Coupling consists of two forged halves, as can be seen in the accompanying photograph. The ends of the hubs are prepared for welding to pipe or welding fittings of corresponding sizes. When the two halves of the coupling are brought together, the tongue of one slips into the groove of the other. A circumferential cavity directly beneath the beveled welding area prevents burn-through or the formation of icicles in the interior. The cavity also insulates the interior from the extreme welding heat and prevents scaling.



The New TUBE-TURN SF (scale-free) Welding Coupling

Briefly, here are the advantages of the TUBE-TURN SF (scale-free) Welding Coupling: (1) the tongue and groove arrangement makes piping easy to align; (2) the hubs of the coupling are relatively short and any scale or protrusions formed by the two attachment welds can be conveniently reached and removed before the coupling is connected; (3) there is no scale to damage valves, traps, pumps, instruments and other equipment built to close tolerances; (4) complete penetration is obtained without the danger of burn-through or the formation of icicles; (5) the coupling can be taken apart when piping is to be disassembled, and re-used; (6) the coupling joint is smooth, reducing pressure drop; (7) when properly welded the joint is permanently leak proof and as strong as the pipe itself; (8) in some instances sections of pipe can be fabricated at lower cost than if conventional flanges were employed for the same purpose; (9) the coupling may not only save maintenance work necessitated by scale damage but also eliminate the expensive, production-halting downtime on major pieces of equipment that is often entailed.

The TUBE-TURN SF (scale-free) Welding Coupling is useful in connecting piping designed to carry hydraulic fluids, high pressure steam, compressed air, certain chemicals and gases, lubricating oil, fuel oil, carbonated beverages (including beer), and various food products. It is available in sizes from 1¼" through 12" and in carbon steel, stainless steel, aluminum and other metals and alloys.

Complete information about the TUBE-TURN SF (scale-free) Welding Coupling may be obtained from the manufacturer, Tube Turns, Inc., Louisville 1, Kentucky.

Castaic Hills Try Clams Up

The no dope sign has been hung on Continental Oil Company's Rynne-Fisher No. 2 test on Sec. 35-5n-17w at Castaic Hills. However, the project is below 5400 ft. and scouts concluded that something of interest has made its appearance.

THIS LAUGH

OFF!!

After the flea and the elephant had reached the other end of the bridge, the flea said: "Boy, we sure made her shake, didn't we?"

Small Bobbie had worked hard mowing lawns and doing miscellaneous chores trying to earn enough to buy a bicycle. Finally he lacked only $20 having enough, so he wrote a letter to God, asking him to send him the $20.

The letter found its way to the Dead Letter Office in Washington where it was opened. A kind-hearted mail clerk, touched by the letter, put a $5 bill in a government envelope and mailed it to Bobbie.

After Bobbie had opened the envelope and examined the bill, he sat down and wrote another letter to God. "Dear God, thank you for the money, but next time don't send it through Washington. They took out $15 for taxes."

"Why don't you take the gal friend to the movies any more?"

"It rained one night and we stayed home."

The traveling salesman found himself far out in the country. It was bed time, and he was very tired. On coming to a farm house, he stopped, and asked the farmer if there might possibly be a place he could sleep that night.

The farmer frowned thoughtfully, then replied that he didn't have a spare room. However, if the traveller would like to go upstairs and sleep with the red-headed school teacher, it was perfectly all right with him.

The salesman drew himself up and said: "Sir, I will have you know that I am a gentleman."

To this the farmer answered: "So is the red-headed school teacher."

History Lecturer: "Can any one tell me what makes the Tower of Pisa lean?"

Plumper-than-usual Woman: "I don't know, or I'd take some myself."

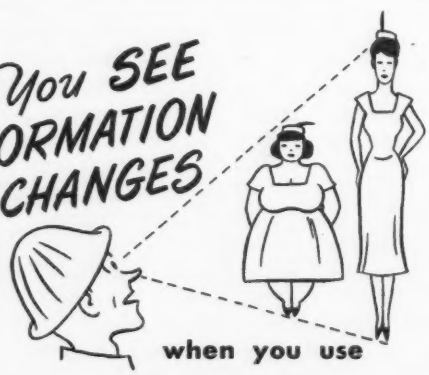
"Jim, why don't you get married?"

"Well, my trouble is that every day I get more particular and less desirable."

Spectator: "Hey, sit down in front."

Drunk: "Don't be ridiclish. I don't bend that way."

You SEE FORMATION CHANGES



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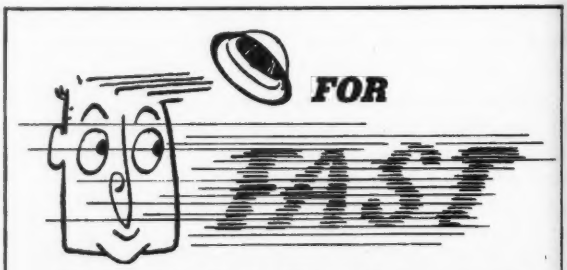

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